# CURRENT NEWS

July 18, 1914

## Jury Blames Long Beach for Auditorium Collapse

Decision in Test Case States that California City Had Assumed Liability of Private Corporation in Erecting and Maintaining Structures

Approximately 200 suits for damages aggregating $3,750,000 have been filed against the city of Long Beach, Cal., as a result of the municipal pier collapse on May 24, 1913, when forty-two persons were killed and 200 injured. One of the claims against the city has been selected as a test case and was recently tried before Judge McCormick of the Los Angeles Superior Court. The verdict of the jury upheld the contention of the plaintiffs that the city, in constructing and maintaining the pier and auditorium, entered into a private enterprise and therefore assumed the liability of a private corporation.

In the defense the attorneys for the city claimed that the auditorium stood on tidelands which belonged to the Government, that the city had never claimed the legal right to act as landlord of the building, that there is no authority for collecting the money now being paid to the city by the tradesmen who rent space on the structure, and that any liability that could be proved would devolve upon the State rather than the city. One of the points of defense introduced was that the Empire Day band struck the "keynote" of the auditorium and that this caused the collapse of the crowded floor. Each of the twenty-one points submitted as reasons for nonsuit was overruled by the court.

The several points made by the plaintiffs were that the city had built the structure and leased it for revenue, that the auditorium building and approach were constructed in a dangerous manner without supervision and that the girders beneath the portion of the structures collapsing were decayed and rotten. The city engineer admitted on the stand that he could find in his office no plans and specifications for the construction of the approach to the pier, whence the two insufficient girders offered as evidence had been taken. Other witnesses testified that water had been permitted to stand on a portion of the floor that had settled and that continual leakage upon the girders beneath had hastened decay.

An appeal will immediately be made by the city of Long Beach to the Supreme Court of the State, and pending the decision on the appeal the other 200 suits against the city will be held in abeyance.

## City-Manager Plan for Mount Vernon, N. Y.

At a mass meeting of citizens of Mount Vernon, N. Y., a community of about 32,000, to consider the optional charter bill passed by the last State Legislature, a resolution in favor of adopting a charter under the city-manager plan was unanimously passed. The city was privileged to consider seven forms of government, nearly all of the commission-government type.

## Cloudburst Plays Havoc at Scranton and Vicinity

A cloudburst in the vicinity of Scranton, Pa., July 10, caused damage that has been estimated at more than $500,000. Two city bridges were washed out by Roaring Brook, and the Delaware, Lackawanna & Western Railroad was blocked between Nayaug and Moscow, east of the city, necessitating routing trains for some time over the Lehigh Valley Railroad.

## Patent Suit Brought Against Minneapolis

Inventor Claims Many Patent Infringements by City Filtration Plant

Arguments were begun July 7 before Federal Judge Wilbur F. Booth in the suit of Ira H. Jewell against the city of Minneapolis, involving alleged patent infringements in the city filtration plant. Mr. Jewell asks an injunction to prevent the city from further operating the plant, an accounting of profits from devices on which he claims patent rights, and damages, although no specific amount is stated.

In 1911 Mr. Jewell offered to settle his claims for $79,000. On refusal by the city to accede to this request he brought suit.

## Critical Report on New York Sewer Plan

Objections have been raised to many of the features of the plans which the Metropolitan Sewerage Commission has proposed for the disposal of the sewage of New York City. In a report submitted recently to Mayor Mitchel the New York Sewer Plan Commission, appointed June 26, 1913, to review the metropolitan commission's work, takes exception, among other things, to the proposal for making an artificial outlet island in the ocean off the Long Island shore and to the metropolitan commission's standards of cleanness for the waters of New York Harbor, involving the question of the requirements for dissolved oxygen. These objections, however, have not gone unanswered, for the metropolitan commission has just issued a supplementary report of 42 pages replying in detail to the criticisms of the plans which it proposed.

## James Peak Tunnel Situation

Although the Supreme Court of Colorado has declared invalid the bond issue voted by the city of Denver last February to pay the city's share of the cost of the James Peak tunnel, characterizing the contract as a deliberate effort to evade the constitution, it is not believed that the project will be abandoned. City Attorney Stevens has announced that the ruling will be submitted to popular vote under the section of the State constitution permitting the recall of judicial decisions.

## Industrial Safety Council to Meet in Chicago

The third annual congress of the National Council for Industrial Safety will be held at the Hotel La Salle, Chicago, Oct. 13, 14 and 15. Space allotted by the hotel is barely adequate for the official exhibit, so that manufacturers of safety devices should apply directly to the hotel for suitable reservations near those of the National Council. W. H. Cameron, Chicago, is secretary and treasurer of the council.

## Westinghouse Strike Ended

Advices from the Westinghouse Electric & Manufacturing Company, of East Pittsburgh, state that the strike was called off by the workmen on July 9. Though the day set for return to work was Monday, July 13, a large number of the men reported on the Friday and Saturday preceding. The works are now running on full time.

## Agreement Reached on Water Power Legislation

Prediction Made That the Adamson and Ferris Bills Will Pass House of Representatives, Although Senate May Not Act at This Session

President Wilson presided at a conference at the White House Wednesday night during which an agreement was reached as to the provisions the Adamson bill and the Ferris bill shall contain when they are brought on the floor of the House of Representatives, probably next week.

The Adamson bill is to be so worded that it will not apply to irrigation water or power dams or projects now under the jurisdiction of the Secretary of the Interior or the Secretary of Agriculture upon public lands of the United States.

It is stated at the Department of the Interior that the Adamson bill is to apply to all structures put in navigable waters as methods of promoting navigation. It is stated that the idea is to have a line of demarkation between projects controlled by the Secretary of War at present and those in the West where power is developed from streams.

The Adamson bill is to cover streams which are actually navigable or which will be made navigable by dams in the Eastern States as well as in the West, while the Ferris bill, it is stated, is to be so phrased that it will cover only irrigation and power development on public lands.

It is being stated in Washington that while the Adamson bill and the Ferris bill may pass the House at this session, there is a possibility that they will not pass the Senate at this session unless President Wilson makes up his mind to greatly urge the bills on the Senate, which he is understood not yet to have done.

## Atlantic Waterways Convention Planned

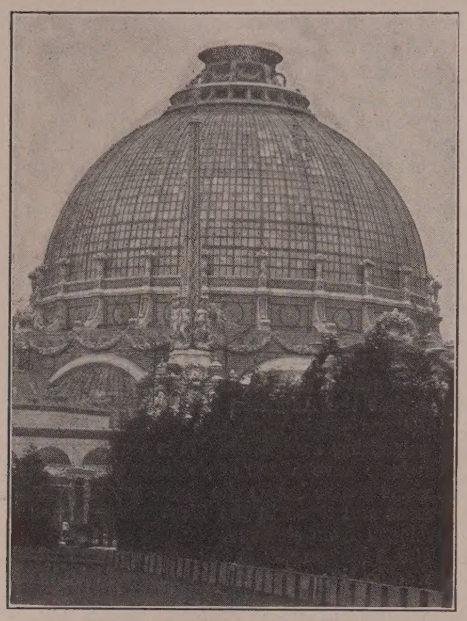
A program for the seventh annual convention of the Atlantic Deeper Waterways Association, to be held Sept. 7-12 in New York City, was arranged at a meeting of the New York and New Jersey committee of the association on July 7 at the headquarters of the Merchants' Association of New York. Business sessions will be concluded Sept. 8 and the remaining days will be devoted to an inspection of New York Bay and the Hudson River as far north as Albany.

## Coon Rapids Dam Passes One Hundred Million Log Run

Over 100,000,000 ft. of logs were successfully passed by the Coon Rapids (Minn.) dam in the high water which carried away the cofferdam of the Mississippi River lock and dam 1 below Minneapolis, as noted in the Current News of the Engineering Record July 11. The logs broke the boom at the dam which was intended to guide them to the log sluiceway and were passed through the spillway openings over the closed Tainter gates. The operation of opening the gates was interfered with in only a few cases by "dead heads" which floated nearly vertical and by 50 and 60-ft. boom logs which were caught crosswise of the 33-ft. openings. These were picked out by a floating pile driver and pointed through the sluiceways. All logs are now retained in a storage boom of the logging companies, 7 miles below the dam. Here some trouble is reported from flooding by back-water, though last advices indicate the water is rapidly falling.

## Largest Glass Dome

In the accompanying illustration is shown the huge glass dome of the Palace of Horticulture, one of the structures erected in preparation for the Panama-Pacific Exposition in San Francisco. Standing 185 ft. high, with a diameter of 152 ft., it is said to be the largest structure of its kind in the world. It is a steel frame with a wire-glass covering. The architecture of the Palace of Horticulture,



*Copyright, 1914, by the Panama-Pacific Exposition*

GLASS DOME 185 FEET HIGH

which is 500 ft. long by 300 ft. wide, is of Saracenic origin, the building resembling the famous mosque of the Sultan Ahmed I. The dome is visible miles from the exposition grounds. At night it will seem like a mammoth soap bubble, being illuminated by giant searchlights playing on the glass from within.

## Pennsylvania Track Elevation at Camden, New Jersey

The West Jersey & Seashore Railroad, writes a representative of the Pennsylvania system, is now elevating that portion of its line in the city of Camden, N. J., lying between Walnut Street and Harleigh Cemetery. This elevation is a part of the general scheme of elevation begun in Camden in 1905 and contemplating the elimination of all grade crossings in the city, on the Pennsylvania Railroad and the West Jersey & Seashore Railroad, with the exception of a portion of the electric service where the tracks are required to pass along certain streets at grade.

In 1912 work had progressed to the point where the throat of the yard at the terminal had been raised, all tracks elevated to Cooper's Creek on the Amboy division and to Walnut Street on the Atlantic City division, including the construction of the elevated electric line from the terminal to Haddon Avenue, where its tracks diverge—one branch descending to grade along Seventh Street and the other continuing elevated to a point near Walnut Street and thence by an elevated cutoff joining the first branch at grade at Van Hook Street.

At present the cutoff is operated as a steam line for freight and certain passenger trains to South Jersey points; the intention is, however, to utilize the cutoff for express electric service to Atlantic City and the Seventh Street line for accommodation service. At this stage work was suspended and a temporary rundown built at Walnut Street.

Between Walnut Street and Harleigh Cemetery, a distance of about 1 mi., the tracks cross nine streets, which will be spanned by viaduct and girder construction with solid floors. The masonry for abutments and retaining walls is of concrete, presenting no unusual features. The roadway will be carried on a fill between streets.

This section of the elevated reaching to Harleigh Cemetery meets the present track grade at a summit at this point. About ½ mi. further the tracks now cross White Horse Pike at grade. This highway is the main thoroughfare for teams and automobiles to Atlantic City, and the travel is very heavy. It has therefore been determined to extend the elevation from the crest at Harleigh Cemetery across White Horse Pike, combining in one, by a slight change in the direction of White Horse Pike, the two grade crossings now existing.

## Specialized Courses in Highway Engineering

Students in engineering courses offered in accordance with the terms of the merger of Harvard and the Massachusetts Institute of Technology will be permitted to specialize in highway engineering. The new option is to be offered by the department of civil and sanitary engineering and will be under the general supervision of Prof. Charles M. Spofford, head of this department, while the instruction in highway engineering will be given by Prof. Hector J. Hughes of Harvard.

## New Construction Activities

The latest monthly report of the United States Steel Corporation, showing a gain in unfilled orders over May 31 of 35,000 tons, interjected a more optimistic note into the steel situation, especially as it had been expected that a decrease of about 75,000 tons would be experienced. This is the first gain reported since February. From Chicago comes the news that the Pullman Company is gradually restoring to the roll of active employees in the shops at West Pullman men who were suspended several months ago, and it is stated that the Western Steel Car Foundry in Hegeswich, Ill., has within the last two weeks re-employed 1500 men. Of course a large increase in the steel business will be necessary to offset the prevailing low prices. A symposium of views published by the New York Times on July 13 showed a returning optimism in the steel trade, and indicated that the railway situation may be improved through the activity necessitated by moving the enormous crops expected. The Chicago, Milwaukee & St. Paul Railroad has placed an order, it is stated, for five large-type locomotives for this service.

### Highways and Paving

Bids were received July 6 by the California State Highway Commission for about $700,000 worth of construction. Road bonds worth $300,000 are reported sold in Guernsey County, Ohio. Contract for paving two streets with asphalt in Peru, Ind., has been awarded to the Western Construction Company for $125,000. The Illinois State Highway Department has awarded contracts in seven counties, aggregating about $146,000, and contracts for 34,000 sq. yd. of asphalt pavement were recently awarded in Ottawa, at $93,500.

### Water and Sewers

The lowest bid for a sewerage contract in New Orleans was $114,000. A larger unit of the same work drew $247,000 as the lowest bid. Contract for constructing a 9-ft. public trunk sewer in Buffalo, N. Y., was awarded at $93,983. The lowest bid for constructing a sewage treatment plant in Sandusky, Ohio, was $74,000.

F. C. Horne, engineer, has submitted to the city clerk at Twin Falls, Idaho, a report on the proposed water works system, estimating the total necessary expenditure at $250,000.

### Bridges

Contract for constructing a bridge over the White River in Indianapolis has been awarded to the National Concrete Company, of Indianapolis, for $331,110. The lowest bid received by the County Controller at Wilkes-Barre for constructing a bridge over the Susquehanna River near Nanticoke, Pa., was $278,500, and the bidder, the Dravo Construction Company, of Pittsburgh, was awarded the contract. The Transit Construction Company, of Mt. Vernon, N. Y., captured the contract for constructing Ashokan bridge around Ashokan reservoir, in the New York City water supply, at $114,535. The Santa Fé Railway Company is contemplating spending about $100,000 for constructing the Merlin Street viaduct. The city of Little Rock, Ark., is considering building a bridge across the Arkansas River at a cost of $475,000.

### Hydraulic and Kindred Development

From Portland, Ore., comes a statement that the Railway Light and Power Company has been granted permit by the State engineer to construct reservoirs on the headwaters of the Clackamas River for a power development. Contract has been awarded at Seattle for constructing 1500 ft. of reinforced-concrete 18-ft. tunnel under Lake Union at $183,511. An engineer has been instructed to prepare plans for a wharf and a cold storage plant in the turning basin at Seattle; the estimated cost is $75,000.

A canal between Santee and Cooper Rivers, near Charleston, S. C., and a power plant at the intersection of this canal with Cooper River is projected by the Santee-Cooper Development Company. Contract for constructing a pier and two ferry slips at San Francisco has been awarded to the Healy, Tibbitts Construction Company for $478,000. At New Orleans contract for furnishing and placing on jetties about 25,000 tons of stone has been awarded to Lester F. Alexander, of New Orleans, at a total cost of $106,000.

### Miscellaneous

Plans have been completed for a ten-story reinforced-concrete hotel in Seattle, Wash., to cost $200,000, as well as for a four-story restaurant and natatorium to cost $125,000. A new home for the Consolidated First National and Security Banks in Portland, Ore., to cost $1,000,000, will probably be erected. In San José, Cal., plans are being prepared for a five-story reinforced-concrete club-house to be erected for about $100,000. Plans for a building to be erected by the Illinois Traction System in Peoria, Ill., at a cost of $400,000, have been approved. A Masonic temple is to be erected in Syracuse, N. Y., for $100,000. Additions are to be made to the plant of the Canadian Alkali Company at Sandwich, Ont., at a cost of $500,000. Meridian, Miss., is having plans prepared for a city hall, to cost about $150,000. Erection of a $2,000,000 hotel in Hartford, Conn., is reported under consideration. Contract for erecting a twenty-story office building on West 42nd St., New York, has been awarded to the George A. Fuller Construction Company, at a bid of $500,000. Two large railway terminal station projects are reported, one for the Toronto Terminal Railway Company, at Toronto, Ont., to cost $3,000,000, and the other at Macon, Ga., to cost about $750,000. It is stated that the Pennsylvania Railroad has under consideration an extensive track-elevation and grade-crossing-elimination program in the vicinity of Pittsburgh.

## News of Engineering Societies

**The American Association of Heating and Ventilating Engineers** held a convention July 9-11 in the Hollenden Hotel, Cleveland. About 300 delegates were in attendance.

**The Detroit Engineering Society** held one of a series of summer shop trips July 15, the members journeying to Walkerville, Canada, to inspect the Canadian Bridge Company's plant. Exchange of meeting, library and club house privileges with the Cleveland Engineering Society, the Engineers' Club of Dayton, and the Western Society of Engineers at Chicago has been arranged.

## Personal Notes

F. C. Baluss has been appointed engineer of bridges and buildings of the Duluth, Missabe & Northern Railway at Duluth, Minn.

Gen. Theodore A. Bingham will be retained as consulting engineer of the New York Department of Bridges, which has undergone a change in organization, as announced elsewhere in this column.

Henry C. Westover has retired from the firm of Rollins & Westover, consulting engineers, of Kansas City, in which he was associated with W. B. Rollins. The new firm name is Rollins & Company.

Bion J. Arnold, consulting engineer, of Chicago, has been retained by the Jersey City Chamber of Commerce as consulting engineer on projected improvements in the city's commercial and industrial facilities. The work contemplated includes the construction of docks and a connecting railroad.

Maj. William J. Barden, Corps of Engineers, U. S. A., who has been stationed in Washington, D. C., in various capacities for eleven years, and who is now on duty at the Army War College, has been ordered to Vera Cruz, Mexico. He will relieve Lieut. Col. C. A. F. Flagler, who is ordered to Washington for duty at the War College.

T. J. Buckley has been appointed by A. E. Roche, city engineer of Troy, N. Y., as the executive of a corps of ten engineers who are to make surveys and prepare plans for harbor improvement and development. When the surveys are completed Mr. Roche contemplates a study of the commercial advantages the city will derive from the barge canal.

Capt. Charles K. Rockwell, Corps of Engineers, U. S. A., who has been stationed in Washington, D. C., for four years, is ordered to Manila, P. I., for duty with the Third Battalion of Engineers. Captain Rockwell is disbursing officer in the office of the chief of engineers in the War Department, and also one of the military aids to President Wilson. He served as aid also to former President Taft.

H. A. Strauss, consulting engineer, of Chicago, has been retained to prepare a complete valuation of the property of the Alton, Jacksonville & Peoria Railway Company. The report is to be submitted to the Illinois State Public Utilities Commission in connection with the application for authorization of reorganization of the company. It will be the first extensive valuation on an interurban railway submitted to this commission.

Alexander Johnson has resigned as chief engineer of the Department of Bridges, New York City. Mr. Johnson is a graduate of Sheffield Scientific School, Yale University, and has been in the department continuously since 1896. Preliminary surveys were under way at that time for the Williamsburg Bridge, and as the work progressed Mr. Johnson was advanced, being finally placed in charge of all the work on the Manhattan end. For two years he was consulting engineer and was in full charge of the Manhattan Bridge and of the work on the new municipal office building.

Capt. Mark Brooke, Corps of Engineers, U. S. A., at present assistant to the District of Columbia Engineer Commissioner, has been ordered to the Philippines. Other army engineers relieved of present assignments and sent to the Philippines are Maj. Clarence O. Sherrill, at New Orleans; Capt. Rodger D. Black, at New York City; Capt. Charles R. Pettis, at the United States Military Academy; First Lieuts. John M. Wright at Washington Barracks, L. C. Herkness at Washington Barracks, R. F. Fowler at Texas City, Tex.; Charles J. Taylor and G. V. B. Wilkes at Vancouver Barracks, Wash.

Lieut. Geo. R. Goethals, who has been employed as assistant engineer in charge of the fortifications division of the Panama Canal work, sailed June 24 on a month's leave of absence, at the expiration of which he will be relieved to allow him to comply with War Department orders, directing him to report at West Point, where he will become an instructor in the United States Military Academy. He first entered the Canal service on May 20, 1908, as instrumentman, and was relieved on Sept. 1, 1909. He was again detailed for duty on the Isthmus and entered the service on Nov. 11, 1910, and, after completing his work on the Panama railroad, was assigned to the fortification work.

Austin L. Bowman, consulting engineer of the Department of Bridges, New York City, has been appointed chief engineer, succeeding Alexander Johnson, resigned. The salary attached to the position of chief engineer is $10,000. Mr. Bowman was graduated from Yale in 1883 and began work as a railroad rodman. In 1885 he joined the city engineering department of the city of St. Paul and in 1886 went back to railroading on the Iowa division of the Minnesota & Northwestern Railroad. He continued on railroad work until 1890, when he became engineer of erection for the American Bridge Company. In 1907 he entered the New York Department of Bridges as consulting engineer and served in that capacity until his recent promotion to the post of chief engineer.

Joseph Bucklin Bishop, editor from its inception in September, 1907, of the "Canal Record," the organ of the Isthmian Canal Commission, left the Isthmus July 3 to undertake special service in connection with the Panama Canal exhibit at the Panama-Pacific Exposition in San Francisco, which will continue until July 16, on which date his resignation will go into effect. He was appointed secretary of the Isthmian Canal Commission, at the suggestion of ex-President Roosevelt, on Sept. 7, 1905. Fortified with thirty-five years' newspaper experience in New York, he undertook in 1907 the administration of the canal weekly, preparing, in addition, the four numbers of "The Official Handbook" of the canal. Mr. Bishop will engage in magazine work on completion of his term.

Daniel F. Fulton, for the past six years assistant city engineer of Yonkers, N. Y., has been appointed city engineer, succeeding the late Samuel L. Cooper, whose death occurred May 8, 1913. Immediately after his graduation from the College of Civil Engineering, Cornell University, Mr. Fulton accepted a position as assistant to the late George W. Rafter, consulting engineer, of Rochester, N. Y. He later became engineer of the Buffalo, Rochester & Pittsburgh Railroad, with offices at Salamanca, N. Y. In 1904 he was appointed assistant engineer in the New York State Engineer's department and was engaged for about one year on road work and for three years on barge canal work. From 1906 to 1908 he was in charge of Residency 1, Champlain Canal, with offices at Mechanicsville, N. Y.

J. R. Bibbins, engineer, of Chicago, has been engaged by the law department of Pittsburgh in an advisory capacity in connection with proceedings for the improvement of local transportation conditions. Through co-operative study of the various phases of the problem with the railways company an attempt will be made to develop an operative service standard, scientific re-routing in the terminal district and the progressive rehabilitation of the property until adequate physical condition is reached. The matter will later be referred to the State Public Service Commission. Mr. Bibbins is associated with Bion J. Arnold, of Chicago, and participated in a previous investigation in Pittsburgh. He also was resident engineer for the investigation of transit problems in Providence and San Francisco and of steam railroad terminal development in Chicago.

Fred C. Stanton, assistant engineer in local charge of Panama Canal work at the east breakwater and Cristobal coaling plant, who sailed for the United States on leave of absence on May 28, has cabled his resignation, effective May 27. He entered the canal service as assistant engineer Sept. 24, 1907, and arrived on the Isthmus Sept. 29. He was assigned to duty in the old Chagres Division, which later became a part of the Central Division. On Aug. 26, 1908, he was transferred to the harbor and channel section of the old Atlantic Division, on work in connection with the building of the west, or Toro Point, breakwater. On the completion of this work in the forepart of the present year, he was given local charge of the construction of the east breakwater at Coco Solo Point, and on April 28, in addition to his other duties, he was placed in local charge of the Cristobal coaling plant.

## Obituary Notes

Henry R. Emmerson, Canadian minister of railways and canals when Sir Wilfrid Laurier was premier, died in Dorchester, N. B., July 9.

Melville E. Ingalls, formerly president of the Cleveland, Cincinnati, Chicago & St. Louis Railway and the Chesapeake & Ohio Railway, and organizer of the Joint Traffic Association, which was subsequently dissolved by the U. S. Supreme Court, died July 11 at Hot Springs, Va.

Brig.-Gen. Garrett J. Lydecker, U. S. A., retired, for many years a member of the Engineer Corps of the United States Army, died July 9 at his home in Detroit, Mich. He was born in Englewood, N. J., November 15, 1843. He studied for a time at the College of the City of New York, and was graduated from the United States Military Academy in 1864. He was commissioned a first lieutenant of engineers June 13, 1864. After the Civil War he was in charge of river and harbor improvements, surveys, and the building of various defensive works until 1869. He was appointed a captain in 1866. In 1869 he became assistant professor of engineering at the United States Military Academy. Later he became chief of engineers on the staffs of the commanding generals of the Pacific and Missouri divisions. He was appointed major in 1880, lieutenant-colonel in 1891, colonel in 1901, and was retired with the rank of brigadier-general in 1907. Gen. Lydecker had charge of the improvement of the Detroit River, and superintended the original survey of the St. Clair River and the building of the St. Clair Flats Canal.

## Civil-Service Examinations

### Examinations Previously Announced

| Date | | See Eng. Record |
|---|---|---|
| July | 22—Transitman, U. S. Forestry Service | June 27 |
| July | 22-23—Mechanical draftsman, Panama Canal service | July 4 |
| July | 25—Office assistant for preparation of highway specifications | July 4 |
| Aug. | 5-6—Heating and ventilating engineer, U. S. | July 11 |

## Coming Meetings of National Engineering Societies

AMERICAN SOCIETY OF CIVIL ENGINEERS. Secretary, Charles Warren Hunt, 220 West 57th St., New York. Meets first and third Wednesday, except in July and August.

AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS. Secretary, C. C. Brown, Indianapolis, Ind. Next convention will be held Oct. 6 to 9, inclusive, at Hotel Somerset, Boston, Mass.

AMERICAN SOCIETY OF ENGINEERING CONTRACTORS. Secretary, J. R. Wemlinger, 11 Broadway, New York. Meets second Thursday in New York, except in July and August.

AMERICAN WATER WORKS ASSOCIATION. Secretary, J. M. Diven, 47 State St., Troy, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS. Secretary, Prof. Edgar Marburg, University of Pennsylvania, Philadelphia.

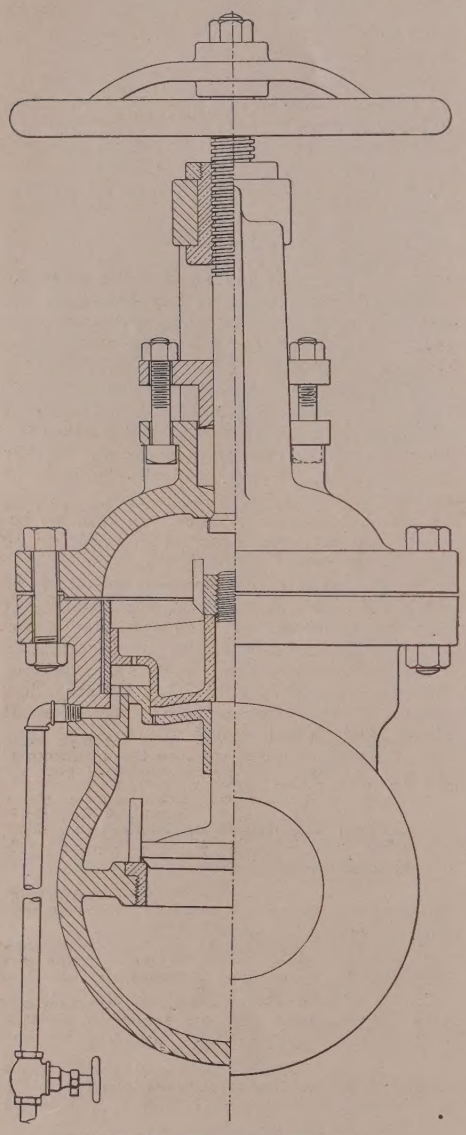
SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION. Secretary, Dean F. L. Bishop, Engineering Dept., University of Pittsburgh, Pittsburgh.

CANADIAN SOCIETY OF CIVIL ENGINEERS. Secretary, Clement H. McLeod. Meets Thursdays, in Montreal, except during the months of May to September, inclusive.

INTERNATIONAL IRRIGATION CONGRESS. Twenty-first session will be held Oct. 5 to 9, inclusive, at Calgary, Alberta, which is the address of the secretary.

## Testing Automatic Stop-and-Check Valve in Service

An automatic, double-cushioned, non-return, or stop-and-check valve so designed as to permit it being tested while in service is put on the market by the Golden-Anderson Valve Specialty Company, of Pittsburgh. This testing feature is believed to be new on a single-acting valve. A small branch pipe is for that purpose connected with the outer part of the double Corliss dashpot, and it can be run to the floor or any convenient point. By opening the little valve the pressure in the dashpot will be relieved and the valve will close. By closing the little valve pressure will again commence to build up in the dashpot, forcing the valve



AUTOMATIC STOP-AND-CHECK VALVE

open. This feature enables the tenders to determine at once whether the valve is operative and obviates the necessity of going on top of the boilers to close and open the non-returning valve by the handwheel.

The location for the valve in service is between the boiler and the header. The pressure from the boiler acts below the valve disc and above the dashpot piston at the same time. Through ports in the piston the full boiler pressure is also introduced into the outer part of the dashpot, thus balancing the pressure from above on that part. As the area of the valve disc is slightly larger than the area of the inner dashpot the valve will be forced open by the pressure below the disc. In opening, the inner part of the dashpot with its ports controls the speed. If, for one reason or another, the boiler pressure should fail, the pressure from the header acting on top of the valve disc and in the inner dashpot will close the valve, because, as mentioned before, the disc area is slightly larger than that of the dash pot piston. During the downward movement the outer dashpot with its ports regulates the speed. The valve is guaranteed not to chatter, hammer or stick and to be durable, satisfactory and entirely automatic.

## Plan Cement Exhibit for Panama-Pacific Exposition

Approximately 42,000 sq. ft. of space in the Palace of Mines and Metallurgy, at the Panama-Pacific Exposition, will be devoted to the exhibit of the U. S. Steel Corporation. The Universal Company, which is a subsidiary of the corporation, has planned an extensive display. Behind a series of concrete arches will be hung large paintings. These paintings will illustrate the uses of concrete for the farmer, home, roads and factory.

In the center arch a model of the company's Pittsburgh plant will operate during the the exposition. The central feature of the exhibit will consist of an actual reproduction on a 2/3 scale of a portion of a factory building, constructed throughout of reinforced concrete. Within this space, which will be used as a reception booth, will be shown a chart describing graphically, and with samples and outline, the manufacture of cement, pictures of the various plants of the company, models of concrete structures and photographs cf concrete work.

## Business Notes

**Gilbert H. Pratt**, chemist of the Rhode Island State Board of Health, is now associated with the New York Continental Jewell Filtration Company as chief chemist and bacteriologist.

**The Railway Valuation Company** has been organized, with offices at 25 Broad Street, New York City, to aid railway companies to prepare the data required by the Federal valuation act. George H. Hansel is president.

**Booth & Flinn, Ltd.**, the Pittsburg Contracting Company and the Elmsford Contracting & Supply Company have removed their joint New York City office from 3785 Broadway to the Whitehall Building, 17 Battery Place.

**The Sullivan Machinery Company**, of Chicago, has opened an office in the New Brunswick Building, Juneau, Alaska. Burt B. Brewster has been transferred from St. Louis to take charge of the new office. A stock of rock drills and hammer drills and spare parts and supplies for these machines will be maintained for the convenience of customers in Alaska.

**Quimby N. Evans**, senior partner of the firm of Evans, Almirall & Company, of New York City, contractors for heating, ventilating and power equipments, died suddenly on July 6. Mr. Evans in 1880 formed a partnership as the Q. N. Evans Company, doing business in Boston and New York, and in 1885 formed the Q. N. Evans Construction Company in New York. In 1894 the present copartnership was formed. Business will continue under the same firm name.

## Trade Publications

**The Pawling & Harnischfeger Company**, of Milwaukee, has issued a small pamphlet on electric hoists, illustrating several different examples of application to monorail overhead service for light work.

**The H. W. Clark Company**, of Mattoon, Ill., has issued catalog N, which deals with the "Clark" meter box and its design, construction, and uses. The booklet is attractively illustrated and bound, and the contents are carefully prepared.

**The Reading Iron Company** has issued a pamphlet on steel, wrought-iron and corrosion, a review which compares wrought-iron and steel pipes and makes a plea for the use of wrought-iron pipes made from puddled pig iron only.

**The Sullivan Machinery Company**, of Chicago, has issued Bulletin 66B, an illustrated booklet dealing with the Sullivan rock drill mountings and accessories. Of particular interest are the instructions for sharpening and using drill steel.

**The Brown Hoisting Machinery Company**, of Cleveland, has issued Catalog D, 1914, an illustrated 69-page booklet, dealing with tram-rail systems, trolleys and electric hoists. Another new catalog issued recently is Catalog P, dealing with overhead hand traveling cranes.

**The George Haiss Manufacturing Company, Inc.**, of New York, has issued a small pamphlet illustrating high-power two-line and four-line clamshell excavating buckets weighing up to 10,700 lb. for a 3-yd. capacity. It is claimed that the closing capacity is nearly 100 per cent greater than in other buckets and has a ratio of 1:7.

**The Link-Belt Company**, of Chicago, has issued catalog 190, and section A of catalog 110. Catalog 190 deals with the "Link-Belt" wagon and truck loaders for handling coal, coke, stone, sand and similar loose materials from storage. Catalog 110 contains complete information on detachable "Link-Belt." The book is illustrated by photographs showing grain of iron, etc.

**The Challenge Company**, of Batavia, Ill., has issued catalogs 59, 61, 62, 65 and 68. Catalog 59 deals with elevated tanks for village, farm, railroad and home water supply. The "Challenge" engines furnish the subject matter for Catalog 61. Catalog 62 deals with windmills, and catalogs 65 and 68 deal with pumps and steel and wood tanks respectively. All of the above catalogs are illustrated.

**The Electric Storage Battery Company**, of Philadelphia, in Bulletin 143, illustrates and describes the storage batteries and electrical installation for the operation of the double-track 180-ft. span Strauss trunnion bascule bridge for the Chicago & Western Indiana Railroad Company over the Calumet River, Chicago, and for the 124-ft. Scherzer rolling lift span at Galveston, Tex., and gives a list of twelve other railroad spans provided with "Chloride" or "Tudor" accumulators.

**The Rock Island Bridge & Iron Works**, of Rock Island, Ill., have issued a pamphlet illustrating bridge work, and especially emphasize steel towers and tanks, structural steel, sand and gravel bins, boats, fire escapes, ornamental iron and derricks. The pamphlet contains an analysis and diagram of stresses for a 100-ft. steel tower supporting a 40,000-gal. tank.

**The Ingersoll-Rand Company**, of New York, has issued a pamphlet describing the "Little David" pneumatic riveting hammer, the barrel of which is provided with a groove for a standard retaining clip. The retainer does not limit the size of the rivets, and it engages the set in such a manner that the latter cannot possibly be driven out, even though the hammer runs free. The hammer is made shorter, its construction is otherwise improved and it can be taken apart and inspected without use of a vise.

**W. & L. E. Gurley**, of Troy, N. Y., have issued a 223-page copyright 1914 catalog on its line of instruments for civil and mining engineers and surveyors, a 31-page booklet on the Gurley automatic water-stage register, setting forth its construction, installation and use in detail, and special leaflets describing wood-box pocket compasses, explorers' levels, metal book gages and Vaughan flow meters. The main catalog describes the entire Gurley line of transits, compasses, levels, plane tables, rods, tapes, current meters, hook gages, drawing instruments, sketching cases, supplies, etc. The descriptions of the transits and levels are unusually complete.

# Contracting News

## Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

### WATERWORKS.

*Items Arranged Geographically*

**Boston, Mass.**—Metropolitan Water & Sewerage Bd., 1 Ashburton Pl., intends constructing a steel tank on Bellevue Hill, 100 ft. diam., 44 ft. high and contain 2,500,000 gals. Tank is to be enclosed by masonry tower and may be used as an observatory by the public. This is the work reported incorrectly in our issue of July 4 as a steel stand pipe on Bellereau Hill. Dexter Brackett, Ch. Engr. Water Wks.

Bids desired until July 27 by Metropolitan Water & Sewerage Bd., 1 Ashburton Pl., Boston, for building on concrete foundation provided by Commonwealth, above steel tank, cylindrical, 100 ft. diam. and 44 ft. 3 in. high, on Bellevue Hill, West Roxbury, advertised in Engineering Record. Dexter Brackett, Ch. Engr. W. Wks.

**Duxbury, Mass.**—Bids desired until July 23 by Bd. Water Comrs. of Duxbury Fire & Water Dist. for furnishing material and constructing a system of water works, advertised in Engineering Record. Wm. S. Johnson, Consulting Engr., 101 Tremont St., Boston.

**Lenox, Mass.**—Lenox Water Co. reported to be considering the construction of a reservoir to replace the reservoir in Richmond.

**North Adams, Mass.**—Bids desired until July 27 by Comr. Pub. Wks. for constructing an earth dam, reservoir and concrete conduit with appurtenances, advertised in Engineering Record. Wm. S. Johnson, Consulting Engr., 101 Tremont St., Boston.

**Webster, Mass.**—Plans for concrete reservoir to be prepared by Frank L. Fuller, Wellesley Hills, Mass.; cost $55,000.

**New York, N. Y.**—See "Bridges."

**Belleville, N. J.**—Bids desired until July 28 by Town Clerk for furnishing, f.o.b. cars, Belleville, 205 tons (2000 lbs.) 12-in. water pipe, 6 tons (2000 lbs.) special castings, 6 to 12-in. diam.

★**Harrison, N. J.**—Contract for furnishing c.-i. water pipe and valves, etc. (bids opened July 7), awarded to U. S. Cast Iron Pipe & Fdry. Co., New York, at $6,697. Three other bids: R. D. Wood & Co., Philadelphia, Pa., $7,198; John Fox, New York, $7,167, and Standard C. I. Pipe & Fdry. Co., New York, $6,795. Peter J. Goodman, Town Clk.

**Washington, D. C.**—Bids desired until July 29 by Commissioners D. C. for furnishing and delivering 5,000 or more water meters.

**Norfolk, Va.**—Bids reported desired until Aug. 1 by Bd. Control for furnishing 5300 meters.

**Bainbridge, Ga.**—Council taking steps to install water meters.

**Chatsworth, Ga.**—Mayor has under consideration plans and estimates for water works system and electric light plant, prepared by J. B. McCrary Eng. Co., Atlanta. It is planned to construct a 50,000-gal. tank on a 75-ft. tower, using 8 and 6-in. c.-i. pipe in business district and galvanized iron pipe for residential streets. Two propositions submitted—one to bring water by gravity from the hills, cost $12,000; the other to pump it from Holly Creek, cost, steam-driven, $11,000, using an oil engine, about $9,500.

**Dade City, Fla.**—Citizens voted $26,500 bonds for municipal water works and sewerage system.

**Manatee, Fla.**—Bids desired until July 22 by City Clerk for $100,000 bonds, of which $35,000 are for water, $25,000 for sewer and $40,000 for streets.

**Knoxville, Tenn.**—H. B. Long, Electrical Inspector and Engr. of the Tennessee Inspection Bureau, has recommended to the Chamber of Commerce that the storage capacity of the reservoir of the water plant be increased from 5,000,000 to 20,000,000.

**Canal Dover, O.**—R. Winthrop Pratt, Cleveland, O., engaged to co-operate with Geo. E. Arnold, City Engr., to prepare report regarding present water works, to include recommendations necessary for changes and improvements.

**Cincinnati, O.**—Bids desired until July 22 by Director Pub. Service for furnishing and delivering c. i. pipes and miscellaneous castings for water distribution system, Eastern and Spring Grove Aves.; also separate bids for laying c. i. pipes in said avenues.

**Gary, Ind.**—Mayor Johnson has named a committee to look into the feasibility of constructing waterworks for Ridge Road Dist.

**Port Huron, Mich.**—Bids desired until July 27 by City Clerk for constructing a new horizontal compound pumping engine, capacity 12,000,000 gals., advertised in Engineering Record.

**Berwyn, Ill.**—Bids desired until July 21 by Bd. Local Improv. for constructing water supply pipes in 16th St., 64th and 66th Aves.; also water service pipes in 12th St. Arthur R. Wolfe, Engr., 39 S. LaSalle St., Chicago.

**Grays Lake, Ill.**—Bids desired until July 23 by Bd. Local Improv. for constructing a connected system of water supply, advertised in Engineering Record.

Bids desired until July 23 by Village Clk. for a 60,000-gal. steel tank and a 100-ft. steel tower, advertised in Engineering Record.

**Greenup, Ill.**—Bids desired until 3 p. m. July 20 by Village Clerk for constructing water works and electric light plant and 250-gal. per min. motor-driven triplex pump for pumping plant.
light plant. Fuller Coult Co., Engr., Chemical Bldg., St. Louis, Mo.

**Little York, Ill.**—Citizens voted in favor of issuing bonds for water works. Bids for bonds will be received until Aug. 1 and for the construction until Sept. 1. Well, pump, tank, tower and mains will be needed. W. H. Brown, Village Clk.

**Lockport, Ill.**—Bids desired until Aug. 3 by City Council for erecting 100,000 gal. standpipe.

**Morrison, Ill.**—Citizens voted $8,000 bonds for improvements to water works, including extending of water mains.

**Quincy, Ill.**—Paul Hanson, Engr., of Illinois Water Supply at Urbana advised directors of Citizens' Water Works to lay an iron intake pipe 2000 ft. out into the river from present pumping station; estimate cost of pumping station on foot of Towhead Island, $70,000.

**Summit, Ill.**—Bids desired until July 23 by Village Clerk for furnishing and installing deep well pumping machinery or air lift machinery; also a centrifugal or triplex power piston pump; also a 75,000-gal. concrete reservoir, piping, etc. J. W. Cook, Engr., 327 S. La Salle St., Chicago.

**Woodhull, Ill.**—Bids desired by Village Bd. for constructing reservoir and extension of water mains.

**Boone, Ia.**—Citizens voted $25,000 waterworks bonds.

**Cumberland, Ia.**—Citizens voted in favor of water works. Geo. Athike, Town Clk.

★**Wapello, Ia.**—Contract for 3992 ft. 4-in. water pipe and necessary hydrants, valves and fittings (bids opened July 9) awarded to M. McElligott, at $2,385. Central States Engr. Co., Engrs., Muscatine.

★**Elysian, Minn.**—Contracts awarded to Faribault Division Consumers Power Co., of Minnesota, for city pumping and street lighting contracts for the village.

★**Paynesville, Minn.**—Contract for constructing a steel tower and 60,000 gal. water tank awarded to Minneapolis Steel & Machinery Co., at $4,869.

★**St. Cloud, Minn.**—Contract for 5800 ft. 4, 6 and 8 in. c. i. pipe and hydrants, awarded to Jas. B. Clews & Sons. George G. Magnamson, City Clk.

**Enterprise, Kan.**—Bids reported desired until Aug. 5 by City Clerk for constructing about 5500 ft. 4-in. water mains.

**Bennet, Neb.**—Martz Eng. Co., 416 First National Bank Bldg., Lincoln, preparing plans for waterworks system; cost about $10,000.

**Clatonia, Neb.**—Citizens voted $9,200 bonds for water works.

**Crofton, Neb.**—City is considering water works.

**Crofton, Neb.**—Village Trus. considering improving the water works at a cost of $7,000.

**Dalton, Neb.**—Treasurer of Special Fire Dist. authorized to borrow $200,000 for constructing dams, reservoirs, new pipe lines and putting in meters where necessary; work to be done by the town.

**Orchard, Neb.**—Bids reported desired until July 20 by Village Clerk for constructing water works. Probable cost, $17,800. Fairbanks, Morse & Co., Engrs., Omaha.

**Palmyra, Neb.**—Bids desired until July 31 by Village Clerk for $10,000 water works bonds. C. O. Martz, Lincoln, Engr..

**Winner, N. D.**—Bids desired until July 27 by City Auditor for about 42,000 ft. 8-in. and 5000 ft. 4-in. wood pipe, 4-in. hydrants, etc.; cost, about $25,000.

**Clyde Park, Mont.**—Plans completed for installation of water system; cost, $16,000.

**Casper, Wyo.**—Plans of C. C. Carlisle, of Cheyenne, approved for water works extension, and it is reported bids are desired at once by Council.

**Charleston, Mo.**—Bids desired until Aug. 6 (readvertisement) by Mayor for water works and sewerage system and sewage treatment works, advertised in Engineering Record. Frank L. Wilcox, Engr., Syndicate Trust Bldg., St. Louis, Mo.

**Palmyra, Mo.**—Citizens voted $26,000 bonds for extensions to water and light plant. Improvements will cost about $32,000. For information address Howard J. Smith, Palmyra.

**Paragould, Ark.**—Bids desired until July 30 by Secretary Bd. Pub. Wks. for extensions to the water works; cost $28,000. Rollins & Westover, Kansas City, Mo., Engrs.

Bids desired until July 29 by Bd. Improv. Water Dist. No. 2 for $28,000 bonds for constructing water works system in said dist.

**Naco, Tex.**—Corporation Comn., Phoenix, has approved the $30,000 issue of notes to be offered by the Bisbee-Naco Water Co., proceeds to be used to rebuild Naco plant.

**New Boston, Tex.**—Bids desired until Aug. 3 by City Council for constructing a system of water works, advertised in Engineering Record. Nagel & Petersen, Engrs., Muskogee, Okla.

**San Benito, Tex.**—City Council has granted S. A. Robinson, Trustee, 50-yr. franchise to furnish water, lighting and telephone service in San Benito. The franchise will be transferred to a syndicate of English capitalists which will take over the plant of the San Benito Water Co. It is proposed to install new machinery and make other improvements to the system.

**Glendale, Ariz.**—Improvements to water works costing $40,000 contemplated, which will include 2 electrically driven direct connected centrifugal units, 500 gal. per min. each; 2 miles 4 to 12-in. c. i. pipe, 21 fire hydrants, gates and valves of various sizes, etc. H. G. White, Engr., Glendale.

**Denver, Colo.**—Jos. B. Lippincott, Los Angeles, Cal., engaged by Public Utilities Comn. to select reservoir sites and determine other questions necessary for commencement of work on municipal waterworks.

**Glendora, Cal.**—Bids, including plans and specifications, reported desired by Bd. City Trus. until July 24 for furnishing and installing pump, capacity 675 gals., on a 400-ft. lift. F. G. Dessery, City Engr., Central Bldg., Los Angeles.

**Salt Lake City, Utah**—Plans for Twin Lake Big Cottonwood Canyon being prepared and bids for construction will be asked late in summer. Sylvester Cannon, City Engr.

**Twin Falls, Idaho**—F. C. Horne, Engr., has submitted to City Clerk his report on city water works system. He is in favor of taking water from main canal near Murtaugh and estimated the cost of new plant and purchase of present system at $250,000.

**Twin Falls, Idaho.**—City Council decided to construct water works at a cost of about $250,000, plans for which have been prepared. An election is to be held on the question.

**Dawson, Yukon Ter.**—Citizens voted $200,000 bonds for constructing waterworks.

**Montreal, Que.**—Reported bids desired by Water Wks. Dept. for 24,000,000-gal. pump.

**Hanover, Ont.**—Bids desired until July 21 by Town Clerk for water works extensions to consist of furnishing and erection of 100,000-gal. steel water tower, c. i. piping and valves and laying piping, valves and fittings.

**New Market, Ont.**—Recent election to construct water works defeated. It is proposed to extend the mains and install additional hydrants. P. J. Anderson, Treas.

★**New Toronto, Ont.**—Contract awarded by Council for constructing 18-in. intake pipe for water works system to J. Curley, 24 Adelaide St., E., at $7,050.

★**Cranbrook, B. C.**—New water works system to be constructed, contract for steel pipe awarded to Mannesmann Tube Co., and for laying pipes, etc., to Hotson, Leader & Goods, Lethbridge; total cost estimated at $100,000. A. L. McCulloch, Engr., Nelson; T. M. Roberts, City Clk.

★**Edmonds, B. C.**—Contract for 30,000 ft. 4-in. pipe awarded to Robson, Godson & Co. at $24,000.

### SEWERAGE AND SEWAGE DISPOSAL.

*Items Arranged Geographically*

★**Boston, Mass.**—Contract for constructing sewers in Lake St. awarded to Wm. L. Dolan at $6,840.

Bids desired until July 20 by Commissioner Pub. Wks. for pipe sewers and drain in Oakland St., Richmond Rd. and outlet in private land, Dorchester.

**Maynard, Mass.**—Plans for sewerage system to be prepared by F. A. Barbour, South Boston.

**Warren, R. I.**—Town voted to install a system of sewers; cost $46,000. Chas. Y. Chase, 75 Westminster St., Providence, Engr. in charge; Richd. W. Smith, Town Clk.

**Hartford, Conn.**—Following are bids received July 7 for constructing extension to Homestead Ave. interceptor—(a) concrete, (b) reinforced concrete pipe, (c) vitr. clay block: C. H. Slocomb & Co., (a) $55,461, (b) $56,842, (c) $54,408; Ryan Constr. Co., (b) $73,093, (c) $72,838; Stobaugh Constr. Co., (a) $88,496, (b) $90,579, (c) $85,509; O'Neil Bros., (c) $88,451; Pierson Eng. & Constr. Co., (a) $107,824, (b) and (c) $110,050.

Three lowest bids received same time and place as above for constructing sewer in Westbourne Parkway and overflow sewer were, on reinforced concrete pipe and vitr. clay block, respectively, as follows: C. H. Slocomb & Co., $18,843 and $18,555; Ryan Constr. Co., $22,376 on either; Pierson Eng. & Constr. Co., $24,320 and $25,408. Roscoe N. Clark, City Engr.

**Binghamton, N. Y.**—Constructing storm water and sanitary sewers in 6th Ward under consideration.

★**Buffalo, N. Y.**—Contract for constructing a 9-ft. 6-in. public trunk sewer in Hertle Ave. awarded to Jos. F. Stabell Co. at $93,983.

Council ordered construction of 36, 33 and 30 in. tile sewers in Montrose and Kenmore Aves., and 18, 15 and 12 in. tile sewer in Olive St.

★**Goshen, N. Y.**—Contract for constructing sewers reported awarded to Peekskill Constr. Co., Peekskill.

★**New York, N. Y.**—Following are bids opened June 23 by Bd. Water Supply, Municipal Building, New York, N. Y., for Contract 76—constructing Ashokan Bridge, reinforced concrete structure, forming part of highway system around Ashokan Reservoir: (a) Transit Constr. Co., Mt. Vernon, N. Y., $114,535 (awarded contract); (b) Whiting Turner Constr. Co., Sexton Bldg., Baltimore, Md., $128,323; (c) Barzaghi Vought Co., Inc., 299 Madison Ave., New York, $133,266; (d) J. F. Cogan Co., Woolworth Bldg., New York, $148,430; (e) average bid; Winston & Co., 290 Bway., New York, $148,745; King Bros., 45 Hardenbrook Ave., Jamaica, L. I., $150,905; Ward & Tully, Inc., Brown's Station, N. Y., $155,855; A. L. Guidone & Co, 131 E. 23d St., New York, $159,030; Cummings Structural Concrete Co., 221 4th Ave., Pittsburgh, Pa., $165,232; Degnon Contr. Co., 30 E. 42d St., New York, $178,947; Frawley Kaufman Contr. Co., Inc., 51 Chambers St., New York, $182,405.

Unit prices on *(a), (b), (c), (d) and (e):

| | *(a) | (b) | (c) | (d) | (e) |
|---|---|---|---|---|---|
| 4,300 cu. yds. earth excavation | $0.55 | $1.30 | $0.60 | $1.00 | $1.01 |
| 50 cu. yds. rock excavation | 2.50 | 4.00 | 5.00 | 4.00 | 4.05 |
| 450 cu. yds. porous filling on bridge | 1.50 | 1.00 | 2.00 | 2.00 | 1.30 |
| 9,500 bbls. Portland cement | 1.55 | 2.00 | 1.65 | 1.75 | 1.94 |
| 1,550 cu. yds. concrete, Class A | 6.00 | 11.19 | 10.00 | 11.00 | 10.28 |
| 5,100 cu. yds. concrete, Class B | 11.00 | 10.94 | 13.00 | 14.00 | 14.30 |
| 27,000 sq. ft. surface finish of concrete | .10 | .10 | .05 | .10 | .11 |
| 28,000 lbs. steel for reinforcing concrete, consisting of structural shapes with riveted or bolted connections | .045 | .045 | .045 | .06 | .052 |
| 500,000 lbs. steel for reinforcing concrete, not included in Item 8 | .03 | .03 | .035 | .04 | .038 |
| 58,000 lbs. miscellaneous cast iron, wrought iron and steel | .045 | .04 | .05 | .05 | .054 |
| 500 lbs. bronze | .30 | 1.00 | .60 | .65 | .63 |
| 3,000 lin. ft. vitrified pipe | .25 | .50 | .50 | 1.00 | .57 |
| 66,000 lin. ft. of single duct electrical conduits | .10 | .09 | .10 | .10 | .133 |
| 50 cu. yds. crushed stone and gravel | 2.50 | 2.50 | 3.00 | 2.00 | 2.39 |
| 10 M ft. timber and lumber | 55.00 | 50.00 | 50.00 | 40.00 | 43.73 |
| Cleaning up (lump sum) | 1,500.00 | 100.00 | 1.00 | 250.00 | 1,041.00 |

★*Items marked thus give the names of parties awarded contracts.*

**Long Island City, L. I., N. Y.**—Lowest bid received July 8 by Boro. President for constructing a temporary drain from existing sewer at 5th Ave. to Powell's Cove, Whitestone, submitted by Clancy & Van Alst, at $28,167.

**Niagara Falls, N. Y.**—Bids desired until July 21 by Bd. Pub. Wks. for constructing sewers and appurtenances in portions of Niagara Rapids Boule., 27th St., Grand Ave. and number of other streets. F. S. Parkhurst, Jr., City Engr.

**Belleville, N. J.**—Bids desired until July 28 by Town Council for constructing sanitary sewers in Main, Bayard, Rutgers, John and several other streets in Sect. 6, requiring in all 12,376 8 to 12-in. pipe, 13,000 ft. house connections, etc.; also sewers in Union and De Witt Aves., John, Bridge, Quarry and several other streets in Sect. 7, requiring 22,595 ft. 4 to 20-in. pipe and 24,000 ft. 6-in. house connections, etc. Frank T. Shepard, Town Engr., Essex Bldg., Newark.

**Maplewood, N. J.**—Bids desired until July 21 by Township Com., Township of South Orange, Maplewood, for constructing sanitary sewers requiring approximately 10,900 ft. 8 and 4-in. pipe sewers, etc. E. R. Halsey, Engr., 164 Market St., Newark.

★**Newark, N. J.**—Contract awarded by Passaic Valley Sewerage Comn. July 7 for constructing the northern portion of Section 17 in Paterson (bids opened June 16) to Harrison & Craig Co., Newark, at $139,200. For unit prices on this Section see Engineering Record of June 27.

**Plainfield, N. J.**—Following are four lowest bids received July 6 by Common Council for constructing sanitary sewers: Di Napoli & Toriello Constr. Co., Hackensack, $26,896; Kelley-McFeeley Co., Camden, $32,003; T. Foster Callaham, Elizabeth, $32,349; and Chas. A. Peterson, Plainfield, $33,562. And. J. Gavett, City Surveyor.

**Cheltenham, Pa.**—Comrs. of Cheltenham Township taking steps to employ an engineer to make a survey of the township and prepare plans and specifications for the sewerage system and disposal plant contemplated. The communities interested are Cheltenham, Ogontz, Elkins Park, Melrose Park, Ashbourne, Wyncote and a portion of Glenside.

**Frederick, Md.**—Following are bids received for paving and sewer work at court house: C. A. Klipp, $13,451; M. Applegate & Son, $14,284, and Whiting Turner Constr. Co., $16,479. Emory C. Crum, City Engr.

**Towson, Md.**—Ezra B. Whitman, Baltimore, made a proposition to Co. Comrs. at Towson to build sewer systems where needed in the county on the percentage basis, and estimated the cost of establishing plants at Towson, Arlington and Govans at $150,000.

**Kingston, N. C.**—An engineer is to be engaged to prepare plans for the improvements contemplated by the recent issue of $100,000 bonds authorized by the citizens and which will provide $35,000 for extending sewerage system, $15,000 increasing electric light station and $50,000 paving sidewalks.

**Savannah, Ga.**—Drainage Comn. approved the report of the Com. on Plans and Specifications recommending 2 main trunk sewers be completed first in carrying out the drainage project, one on the east side and one on the west side, the cost to be $600,000.

**Dade City, Fla.**—See "Water Works."

**Miami, Fla.**—Bids desired until Aug. 6 by City Council for $250,000 bonds, of which $90,000 are for sewers, $60,000 for streets, $25,000 for sanitation, and $45,000 for public docks.

**Jacksonville, Fla.**—Lowest bid for furnishing sewage ejector, capacity 200 gal. per minute, was submitted by Pacific Flush Tank Co., Chicago, Ill., $1,610.

**Manatee, Fla.**—See "Waterworks."

★**Birmingham, Ala.**—Contract awarded by Bd. Comrs., July 7, to Jordan & Phillips, Birmingham, for constructing sanitary sewers in East Lake at $11,454. Work includes 1500 lin. ft. 12-in., 1030 lin. ft. 10-in., and 16,000 lin. ft. 8-in. clay pipe, 1000 cu. yd. rock, Y's and manholes; also contract for 14,000 lin. ft. 8-in., 1800 lin. ft. 10-in. clay sanitary sewers, 43 manholes, 600 cu. yd. rock, etc., in Owenton, at $9,000.

City Engr. Kendrick authorized to draw an ordinance for constructing sanitary sewers in Gate City, estimated to cost $20,000.

City Engineer instructed to draw ordinance for replacing 6 and 8-in. sanitary sewers in business district with larger sewers. Work will include approximately 5 miles 8, 10, 12 and 30-in. sewers estimated cost, $20,000.

**Belzoni, Miss.**—Bids desired until Aug. 4 by Mayor and Bd. of Town Trus. for furnishing material and constructing 3 miles of vitr. pipe sewers, 8 to 12 in., with manholes, etc., advertised in Engineering Record.

**Amherst, O.**—Bids reported desired until July 23 by Village Clk. for constructing sanitary sewers in E., N. and S. Hazel and Wells Sts., about 3400 ft.

**Miamisburg, O.**—Bids desired until Aug. 1 by Village Clerk for constructing storm water sewers in portions of Sugar, 10th, 4th, Pearl and 2d Sts.

**Sandusky, O.**—Following are bids received July 7 by Director Pub. Service for constructing sewage treatment plant: J. C. Devine Co., Alliance, O., $73,926; Pitt Constr. Co., Pittsburgh, $74,224; J. N. Doerzbach, Sandusky, $93,522, and D. E. Sullivan, Columbus, $125,452. R. Winthrop Pratt, Consulting Engr., Hippodrome Bldg., Cleveland.

★Contract for West End Sewer awarded to Glaser & Hetrick Co., Oak Harbor, at $25,005.

**Xenia, O.**—W. J. Sherman Co., 913 The Nasby, Toledo, retained by city to design and superintend construction of proposed sewage purification plant.

**Berwyn, Ill.**—Bids desired until July 21 by Bd. Local Improv. for constructing sewers in 16th St. Arthur R. Wolfe, Engr., 39 S. LaSalle St., Chicago.

**Carrollton, Ill.**—Bids desired until July 24 by Bd. Local Improv. for constructing sanitary sewer and disposal plant, to consist of approximately 40,128 lin. ft. 16 to 6-in. pipe sewer, 1500 lin. ft. raised house connections, 6 standard design flush tanks, 3 shallow design flush tanks, outfall abutment and reinforced concrete sewage disposal plant, etc. Caldwell Engr. Co., Engrs., Jacksonville.

★**Elgin, Ill.**—Contract for constructing N. State St. sewer system (bids opened July 6) awarded to Logan & Giertz Constr. Co., Elgin, at following bid: 1429 lin. ft. 15-ft. sewer, 90 cts.; 1379 lin. ft. 12-in., 95 cts.; 6466 lin. ft. 10-in., 72 cts.; 16,838 lin. ft. 8-in., 55 cts.; 10,750 lin. ft. 6-in., 32 cts.; 50 lin. ft. 12-in. c. i. pipe, $1.50; 110 lin. ft. 10-in., $1.25; 50 lin. ft. 8-in., $1.10; 85 manholes $30; total, $22,770. Total of next 3 lowest bidders: E. M. Scheflow, Elgin, $23,234; A. M. Lanyon, Waukegan, $23,333, and Wm. Heggie, Joliet, $25,256.

**Springfield, Ill.**—Only bid received for constructing the Brunn Park sewer was from Wm. H. Spence & Son, Springfield, at $15,547.

**Portage, Wis.**—Bids reported desired until July 24 by F. E. Goss, Acting City Clerk, for 23,000 sq. yds. vitr. pipe storm sewers.

**Racine, Wis.**—City Engr. Connolly has submitted to Council plans and specifications for a system of sewers in West Racine, cost $159,138, and on the north side, cost $140,520.

★**West Allis, Wis.**—Contract for constructing addition to sewage disposal plant awarded to Esau Kroening Constr. Co. at $12,595. Next three bidders: Coddington Eng. Co., $13,399; O. H. Bossert Co., $14,033, and C. J. Moritz, West Allis, $14,236 (bidders of Milwaukee unless otherwise stated). E. G. Orbert, City Engr.

★**Bettendorf, Ia.**—Contract awarded to Independent Constr. Co., Davenport, for sewer in western part of city at $22,097.

**Clarion, Ia.**—Bids desired until July 21 by City Clerk for constructing 4 sections of sewer system, advertised in Engineering Record. C. H. Currie, Engr., Webster City.

**Mason City, Ia.**—Bids desired until July 20 by City Clerk for constructing 7221 ft. 30, 20 and 15 in. vitr. sewer pipe.

**Webster City, Ia.**—Bids desired until July 21 by City Clerk for construction sewers and disposal plant as follows: Sect. 1—1671 ft. 15-in. sewer and bulkhead of about 7 cu. yds. Sect. 2—Disposal plant complete, including Imhoff tank, sand filters, sludge area and pumping plant. Sect. 3—10,231 ft. 18 to 8-in. sewer complete and pumping plant. Sect. 4—25,794 ft. 8-in. sewer complete. C. H. Currie, Engr., Webster.

**Hutchinson, Kan.**—City Comn. adopted general plan of 30-in. sewer from Avenue G and Cleveland about 2000 ft. east to Lorain St. At Lorain St., on north side of creek, a pumping station will be built.

**Carthage, Mo.**—Bids reported desired by City Council until July 28 for constructing trunk sewer; cost, $25,000. Jas. B. Lloyd, City Clk.

**Charleston, Mo.**—See "Water Works."

**Hannibal, Mo.**—Bids desired until Aug. 3 by City Clerk for constructing sewers in Sewer Dist. No. 300, advertised in Engineering Record. B. F. Smiley, City Engr.

**St. Louis, Mo.**—Bids desired until July 24 by Bd. Pub. Improv. for constructing sewers in S. Gravois Ave. Sewer Dist. 2 and Glaise Creek Sewer Dist. 11, requiring 11,876 ft. 12 to 33 in. vitr. clay pipe.

**Argenta, (P. O. Little Rock), Ark.**—Lund & Hill, Little Rock, are engineers for sewer system planned for west half of the city.

**Blytheville, Ark.**—Bids desired until July 30 by Comrs. Sewer Dist. 1 for constructing 64,500 ft. 8 to 15-in. sewer, 70 manholes, 60 flush tanks, pumping pit, electrical driven pumping outfit (2 units), sewage treatment works consisting of contact and sand filtration beds with all necessary apparatus. R. C. Huston, Ch. Engr., Exchange Bldg., Memphis, Tenn.

**Dallas, Tex.**—Plans about completed by Commissioner of City Water and Sewerage, R. R. Nelms, on the construction of a sanitary sewer from a point east of the Fair Grounds to Ross Ave. will require 12 to 16 in. pipe.

**Sherman, Tex.**—Citizens petitioned City Council to bond to raise funds needed to convert natural open drain into a covered storm sewer.

**Denver, Colo.**—Bd. Pub. Wks. plans in the fall constructing sanitary sewers in S. Lincoln and S. Cherokee Sts. at a cost of $20,421.

**Seattle, Wash.**—Plans completed by City Engr. A. H. Dimock for constructing sewers on West Mercer St.; cost, $8,000.

**Vancouver, Wash.**—Specifications completed by City Engr. B. L. Dorman for 3500 ft. sewer.

**Portland, Ore.**—Plans completed by Sewer Dept. for constructing 2 sections of Montavilla Dist. sewer, involving 14,000 ft. 42-in., 4200 ft. 36-in., 1100 ft. 30-in., 5100 ft. 60-in., and 4700 ft. 54-in. sewer pipe.

**Salt Lake City, Utah.**—Bids reported desired until July 21 for constructing Sewer extensions 330, 331, 333 and 334. Address City Engineer.

**Hamilton, Ont.**—Construction of sewerage system and disposal plant in recently acquired portion of city under consideration. All pipe over 24 in. to be of concrete, and under of tile. An election will be held in January on the question of constructing system. Probable cost of system, $315,000, and disposal work, $85,000.

**Nanaimo, B. C.**—Citizens voted $30,000 bonds for constructing extension to sewer system.

## BRIDGES.

*Items Arranged Geographically*

**Albany, N. Y.**—See "Hydraulic Construction and River Improvements."

★**New York, N. Y.**—Contract for constructing Unionport Bridge over Westchester Creek awarded by Dept. Bridges, June 27, to Riverside Contr. Co., 39 Cortland St., at $9,616.

★**Camden, N. J.**—Co. Bd. Freeholders approved contract awarded to Ferro Concrete Co., Harrisburg, Pa., for constructing bridge over Pensauken Creek, at $9,500.

**Cranford, N. J.**—Bids desired until July 24 by Com., Co. Bd. Chosen Freeholders, Elizabeth, for constructing steel plate girder bridge, 70 ft. span, 50 ft. wide, over Rahway River at Springfield Ave. Jacob L. Bauer, Co. Engr., 120 Broad St., Elizabeth.

**New Gretna, N. J.**—Bids desired until July 31 by County Bd. Chosen Freeholders, Mt. Holly, for constructing reinforced concrete pile bridge with bascule span over Bass River at New Gretna. Jas. Logan, Co. Engr., Mt. Holly.

**Easton, Pa.**—Bids desired until July 31 by County Comrs. for constructing reinforced concrete bridge over Monocacy Creek, Moore Township, known as County Bridge 180.

**Scranton, Pa.**—Plans prepared for viaduct to be erected over tracks Erie, Delaware, Hudson, Ontario & Western R. Rs. for county; cost about $70,000.

Mayor signed ordinance for constructing bridge over Leggett's Creek; cost, $6,000.

**Paeonian Springs, Va.**—Bids reported desired until July 26 by State Highway Comn., Richmond, for constructing 4-span reinforced concrete bridge over Broad Run, 6 miles from Paeonian Springs.

**Mt. Holly, N. C.**—Bd. County Comrs. at Charlotte approved plans of Victoria Bridge & Iron Co., Roanoke, Va., for constructing bridge over Catawba River; cost, $40,000.

**Bowman, Ga.**—Bids desired by County Comrs. of Madison and Elbert counties, and opened Aug. 24 at bridge site, for constructing steel bridge near Bowman, to consist of 3 spans at 80 ft., one span at 120 ft. and one span at 160 ft., and 4 reinforced concrete piers and 2 abutments. Plans and specifications on file with Good Roads Dept., University of Georgia, Athens. Searcy B. Slack, Engr.

**Lyons, Ala.**—Plans prepared for steel and concrete bridge to be constructed over Altamaha River at Piney Bluff to have fixed spans and one lift span, total length 506 ft. Lyons county seat.

**Chattanooga, Tenn.**—Market St. Bridge Com. is awaiting the approval of the War Dept. on plans for bridge over Tennessee River, which is to be of concrete with steel lift spans, four at 180 ft. and one at 300 ft., rock foundation; cost, $500,000. L. B. Bryan Co., Engr. B. H. Davis, Whitehall Bldg., New York, Designing Engr.

**Bowling Green, O.**—Bids desired until July 27 by County Auditor for constructing reinforced concrete arch bridge in Washington Township.

**Bucyrus, O.**—Bids desired until Aug. 7 by County Comrs., Bucyrus, for constructing superstructure of Smith's Bridge over Sandusky River, Sandusky Township, to be of riveted steel truss construction, consisting of 6 panels 13 ft. 4 in. in length, or a total length of 80 ft. c. to c., 16 ft. clear roadway.

**Columbus, O.**—Bids desired until July 23 by Director Pub. Service for constructing masonry arch over Glen Echo Drive at Indianola Ave.

**Lima, O.**—Plans and specifications being considered by city for constructing bridge at Pine St.; cost, $30,000.

**Sciotoville, O.**—Chesapeake & Ohio R. R. Co., F. I. Cabell, Ch. Engr., Richmond, Va., has selected site at Sciotoville for constructing bridge over Ohio River.

**Woodsale, O.**—Bids desired until Aug. 1 by County Auditor at Hamilton for constructing bridge over Miami River at Woodsale. Bids desired on steel or concrete construction. F. M. Hammerlee, Co. Surveyor.

**Boonville, Ind.**—Bids reported desired by County Comrs. until Aug. 4 (readvertisement) for constructing 14 bridges.

**Elkhart, Ind.**—County Council voted $7,400 for creosoted block floor for N. Main St. Bridge over St. Joseph River.

★**Indianapolis, Ind.**—Contract for constructing bridge over White River at West Washington St. awarded by Bd. County Comrs. (bids opened July 10) to National Concrete Co., Indianapolis, at $331,110.

**Mason City, Ia.**—Bids desired until July 24 by County Auditor, Mason City, for constructing 90-ft. steel highway bridge over Shell Rock, Falls Township.

★**Stillwater, Minn.**—Contract for Everett St. concrete bridge awarded July 8 to O. H. Olson, Stillwater, for $3,650. Lewis W. Clarke, City Engr.

**Lindsborg, Kan.**—New bids desired by J. W. Quinn, Co. Clk., McPherson, until Aug. 12 for constructing bridge over Smoky Hill River, at Lindsborg; cost, $16,000.

**Lexington, Neb.**—All bids opened by State Comn., Dawson County Bridge Com. and Phelps County Bridge Com. at Lexington for constructing Overton Bridge rejected, cost about $40,000. According to reports new bids will be received.

**North Platte, Neb.**—Citizens voted $12,000 bonds toward constructing $50,000 bridge over North Platte River.

★**Laramie, Wyo.**—Contract for constructing bridge over Laramie River (bids opened July 8) awarded to Levy Constr. Co., Denver, Colo., at $4,800. Z. E. Sevison, County Engr.

★**Kalispell, Mont.**—Contract for constructing steel bridge over Cut Bank River awarded to Minneapolis Bridge Co. at $8,050.

**Marmarth, Mont.**—Plans have been prepared by Harry Fearnall, Miles City, for constructing bridge over Little Missouri River for county; cost, $15,000.

★**Arkadelphia, Ark.**—Contract awarded to Vincinnus Bridge Co. for constructing 80-ft. steel bridge over Deroche Creek. John R. Williams, Co. Clk.

**Huntsville, Ark.**—Plans being prepared by J. J. Knock, Fayetteville, for bridge to be constructed at Withrow Ford.

**Little Rock, Ark.**—Construction of bridge across Arkansas River at Broadway is contemplated by City Council; cost, $475,000.

**Dallas, Tex.**—Santa Fe Ry Co. (C. F. W. Felt, Ch. Engr., Chicago, Ill.) contemplates spending about $100,000 for constructing Merlin St. Viaduct.

Contract is about to be let by County Comrs. Court for constructing 3 bridges over Trinity River; cost, $50,000.

**Dallas, Tex.**—See "Railroads."

**Seattle, Wash.**—Bids are about to be received by City Council for $850,000 bonds for constructing 2 steel bridges over Lake Washington Canal at 15th and Fremont Sts.

**Oregon City, Ore.**—Lowest bid opened by County Comr. for constructing steel bridge submitted by C. W. Raymour, cost $7,993.

★Contract for constructing 2 steel bridges awarded to A. C. Berry, Selling Bldg., Portland, at $21,247.

★**St. Helen, Ore.**—Contract awarded for constructing 2 steel bridges to Ambrose Burdsall Co., Portland, $5,049. H. E. La Bare, Co. Clk.

**Alhambra, Cal.**—Bds. Trustees Alhambra and San Gabriel have approved plans for E. Main St. Bridge.

**Sacramento, Cal.**—Bids desired until July 29 by W. F. McClure, State Engr., Sacramento, for constructing superstructures of 2 bridges on Trinity State Rd., 90-ft span over Mad River, and 2 60-ft. spans over South Fork of Trinity River. Bids may be submitted on either all steel or combination wood and steel superstructures. Concrete piers and flooring will be furnished by State Dept. of Engineering.

**Santa Barbara, Cal.**—Bids reported desired until Aug. 3 by Bd. Superv. for constructing a concrete and steel girder bridge over San Roqui Creek on Hollister Ave, 3d Road Dist. C. A. Hunt, Co. Clk.

**San Gabriel, Cal.**—Bids desired until July 21 by Bd. City Trus. for $21,500 bonds for constructing 4 bridges over Arroyo as follows: Longden Ave., Las Tunas Drive, Hermosa Drive, Alhambra Rd.

*★Items marked thus give the names of parties awarded contracts.*

**Sonora, Cal.**—Bids reported desired until Sept. 7 by County Superv. for constructing concrete bridge over Sullivan Creek, 4 ft. long, 18-ft. roadway.

**Florence, Ariz.**—Plans being prepared by Alex. Lucas for constructing 2 bridges over Gila River, one to be 530 ft. long and other to be 940 ft. long.

**Alpine, Idaho.**—Bids desired until July 25 by Bridge Comn., care of Theo. Turner, Pocatello, for constructing steel highway bridge across South Fork of Snake River on Idaho-Wyoming line near Alpine, to consist of 2 steel spans, 175 ft. c. to c. of end pins, 16 ft. clear roadway.

**Toronto, Ont.**—Bids desired by Bd. Control for Don section Bloor St. Viaduct, of steel construction. Bidders may also submit specifications on concrete construction.

Bids desired until Aug. 15 by J. R. W. Ambrose, Ch. Engr., Toronto Terminals Ry Co., for constructing a temporary trestle.

**Nanaimo, B. C.**—Plans completed by City Engineer for constructing 235-ft. steel bridge over Mill Stream River; cost, $30,000.

## PAVING AND ROADS.

*Items Arranged Geographically*

★**Boston, Mass.**—Contract for asphalt macadam pavement on Manthorne Rd., West Roxbury, awarded to West Roxbury Trap Rock Co., at $16,032.

Bids desired until July 21 by Bd. Pub. Wks. for granite block pavement and regulating Shirley St., Roxbury.

**Chicopee, Mass.**—About $35,000 road improvement bonds sold by city.

**Fall River, Mass.**—Bd. Aldermen voted $25,000 bonds for road improvements.

**Malden, Mass.**—Bids desired for $30,000 granite block pavt., with concrete base, and about $8,000 surface drain. Henry W. Estey, City Engr.

**Medford, Mass.**—Bids desired for grading lawns and building walks at Medford High School.

★**Pittsfield, Mass.**—Contract for paving with brick Fenn St. awarded by Bd. Pub. Wks. to Crowe & Walsh, at $2.90 per sq. yd.; total, $5,000.

★**Williamstown, Mass.**—Contract for constructing section of State Highway in Willamstown awarded by Massachusetts Highway Comn., Boston, to L. C. Carchia, Boston, at $19,355. Next four lowest bidders: F. J. Mague, West Newton, $21,556; Middlesex Contr. Co., Putnam, Conn., $20,695; Crowe & Walsh, Pittsfield, $21,546; Hyde, Crowe & Walsh, Pittsfield, $21,546.

**Woburn, Mass.**—About $20,000 is to be spent on paving streets with macadam.

★**Connecticut.**—Contracts awarded by State Department of Highways for constructing State Highways (bids opened June 30) as follows:

Salisbury, Kent, Woodstock, Eastford and Chaplin—22,000 ft. wood guard railing, to Webster & Webster, East Hartford, at approximately $5,250.

Westbrook—Graded road and native stone resurfacing, 4366 ft., Frank Arrigoni & Bro., Middletown, $8,000.

Essex—Resurfacing with native stone, 12,000 ft., to Frank Arrigoni & Bro., Middletown, $3,375.

Salisbury—Graded road, 4040 ft., John DeMichiel & Bro., Torrington, $2,903.

Hartford — Reinforced concrete road, 2400 ft., A. C. Sternberg, Jr., Constr. Co., West Hartford, $5,260; Amiesite road, 4035 ft., Connecticut & Rhode Island Co., $10,414.

Manchester—Reinforced concrete road, 3425 ft., Bristow Bros. & Knowles Corp., $10,827.

★Watertown—6450 lin. ft. trap rock macadam, to John DeMichiel & Bro., Torrington, at approximately $11,687.

★Putnam—6307 lin. ft. bituminous native stone macadam road, to A. D. Bridges Sons, Inc., $8,000.

★Brooklyn—4850 lin. ft. native stone macadam, to Goodman & Trumbull Co., Litchfield, at $6,589.

**Norwalk, Conn.**—Bids desired until Aug. 5 by Secretary Bridge Constr. Co., Peoples Trust Bldg., Washington St., S. Norwalk, for vitr. or wood block pavt. on Washington St. Bridge, town of Norwalk, advertised in Engineering Record. J. E. Greiner, Consulting Engr., Baltimore, Md.

**Brooklyn, N. Y.**—Bids desired until July 22 by Boro. Pres. for repaving with asphalt block on concrete foundation 18th St., in all 3000 sq. yd. asphalt block pavt., 4115 sq. yd. surface treatment of asphalt block pavt., etc.; also regulating, grading, curbing and laying sidewalks on E. 13th, E. 15th and E. 26th Sts., in all 6880 sq. yds. cement sidewalk, etc.

★**Buffalo, N. Y.**—Contracts for paving awarded by Common Council as follows: With asphalt, Alsace Ave. and Linwood Ave., to German Rock Asphalt & Cement Co., D. S. Morgan Bldg., $15,690 and $61,450, respectively.

Common Council voted to pave Wicks and Lester Sts. and repave Virginia and York Sts.

★**Corning, N. Y.**—Contract for paving Market St. awarded by Bd. Pub. Wks. to Bradley & Nolan, Corning, at $39,943.

**Long Island City, L. I., N. Y.**—Bids desired until July 22 by Boro. President for laying sidewalks, etc., on portions of Cooper St., Myrtle and Thedford Aves., in all 87,700 sq. ft. cement sidewalk, etc.; also furnishing and delivering 200,000 gal. light road oil or refined tar oil in tank cars 70,000 cu. ft. hot asphalt mixture, and 5000 cu. yd. broken stone and screenings of trap rock.

Bd. Estimate voted $52,000 for paving Thompson Ave., from viaduct to Diagonal St.

★**Penn Yan, N. Y.**—Contract for paving Seneca and Water Sts. awarded to Chas. N. Kelly at about $12,000.

★**Poughkeepsie, N. Y.**—Contract awarded as follows for paving (bids opened July 9) 440 sq. yd. brick pavt. on Jefferson St.: Bridgeport Constr. Co., Poughkeepsie, and 6350 sq. yd. sheet asphalt on Garden St., Schenectady Constr. Co., Schenectady. E. W. Sylvester, Supt. Pub. Wks.

★**Syracuse, N. Y.**—Contracts for paving awarded July 3 as follows: McBride St., asphalt, to Guy B. Dickinson, Kirk Bldg., at $10,850; Coolidge Ave., asphalt, to John Young, at $10,033; Palmer Ave., asphalt, Warner-Quinlan Asphalt Co., Syracuse, at $16,830, and Maryland Ave. with sandstone, to F. J. Baker, University Blk., at $13,575.

**Tuckahoe, N. Y.**—Bids desired until July 22 by Bd. Village Trus. for grading and paving with Hassam, Dolarway, asphalt block, Warren Bros. bitulithic, amiesite or bituminous macadam penetrative method and setting bluestone curb on Lake Ave., Underhill St. and Cameron Pl. Geo. H. Rogers, Engr., Tuckahoe.

**Greensburg, Pa.**—Bids reported desired until July 24 by County Controller for improving Salina-Avonmore Rd., Bell Township, by macadamizing, constructing brick pavt., drains, etc.

**Lebanon, Pa.**—Bids desired until July 23 by Mayor and Council for approximately 20,000 sq. yds. street paving, advertised in Engineering Record. T. R. Crowell, City Engr.

**Newport, Pa.**—Bids reported desired until July 23 by Bd. City Comrs. for improving certain streets.

★**Norristown, Pa.**—Contract for constructing 2-mile telford road from Krewsons corner, Church Rd. to Jenkintown awarded to Ambler-Davis Constr. Co., at $30,900.

**Philadelphia, Pa.**—Bids desired until July 28 by Dept. Pub. Wks. for paving and repaving and surfacing streets with asphalt, paving with vitr. block, repaving with granite blocks, surfacing and resurfacing country roads, furnishing and applying bituminous materials.

**Pittsburgh, Pa.**—Bids desired until 11 a. m., July 20, by City Controller for repaving portions of Belmont, Ross, Ellsmere and several other streets. Bids desired for standard sheet asphalt, concrete, vitr. brick and block stone pavement. Total estimated cost $55,000.

★**Scranton, Pa.**—Contract for constructing macadam roadway (bids opened June 24) awarded to Herrick Constr. Co., Bennett Bldg., Wilkesbarre. C. P. Savage, Co. Compt.

**Rockville, Md.**—Bids desired by County Comrs. until July 28 for road bonds, $15,000 and $11,000, respectively.

★**Washington, D. C.**—Contract for repairs to asphalt pavt. for a period of 3 yrs. awarded to Cranford Paving Co., Washington, at a total of about $300,000.

**New Cumberland, W. Va.**—Bids desired until July 28 by County Court for improving portions of County road in Butler Dist.

**Kingston, N. C.**—See "Sewerage and Sewage Disposal."

**Old Fort, N. C.**—Bids desired until July 25 by Chairman Old Fort Township Comn., Old Fort, for improving Central Highway, a distance of about 9¾ miles, in all about 71,000 cu. yds. excav., 12,000 cu. yds. gravel, etc.

**Manatee, Fla.**—See "Water Works."

**Miami, Fla.**—See "Sewerage and Sewage Disposal."

**Palmetto, Fla.**—About $40,000 is to be spent by city for paving.

★**Okolona, Miss.**—Contract for constructing about 9¼ miles of graveled roads (bids opened July 3) awarded to Cresap Bros., Humboldt, Tenn. R. J. West, Attorney for Comrs.

**Halls, Tenn.**—Bids desired until Aug. 8 by Comrs. Good Roads, Dist. No. 4, for $40,000 Good Roads bonds.

**Loudon, Tenn.**—County Court voted $50,000 road bonds.

★**Newport, Ky.**—Contract for furnishing steam roller awarded by Campbell County Fiscal Court to Ohio Tractor Co., Marion, O., at $2,575.

**Cambridge, O.**—About $300,000 Guernsey County road bonds sold.

**Cleveland, O.**—Bids desired until Aug. 1 by County Comrs., for improving Bliss Rd., Euclid Township. W. A. Stinchcomb, Co. Surveyor.

★**Dayton, O.**—Contract for brick pavement on Salem Pike (bids opened July 7) awarded to Clifton Hoolihan, Dayton, at $45,447. Gebhart & Kline, Dayton, bid $45,500. W. H. Aszling, Secy. Co. Com.

**Ellsworth, O.**—Bids desired until Aug. 1 by H. M. Bowman, Clk. Ellsworth Township, Ellsworth, for improving with limestone macadam or slag macadam, with or without glutrin treatment, Ellsworth Station Rd. and north and south road from center of Ellsworth Village, 9334 ft. and 7390 ft., respectively.

**Lakewood, O.**—Bids desired until Aug. 4 for $22,160 Hilliard Ave. and $7,330 Mars Ave. road improvement bonds. For further information address B. M. Cook, Dir. Finance.

★**Versailles, O.**—Contract for paving with brick 14,100 sq. yd. on Main St. awarded to John Hennessey & Bro., Troy, at $34,659.

**Youngstown, O.**—Bids desired until July 20 by Road Comrs., Dist. 1, for $60,000 bonds for improving roads in said district.

Bids desired until Aug. 4 by State Highway Comr., Columbus, for constructing bridges and culverts, grading and paving with waterbound macadam, Akron-Youngstown Rd., Milton Township. Length, 15,094 ft. Cost, $26,796.

**Columbus, Ind.**—Lowest bid opened by County Comrs., June 27, for paving with concrete 8th St. submitted by F. H. Kent & Co., Shelbyville, at $27,649.

**Connellsville, Ind.**—Bids reported desired until July 21 by County Treasurer for $17,160 highway improvement bonds.

**Gary, Ind.**—Only bid received for 4470 sq. yd. concrete pavt. on alley No. 7 W., and 1038 sq. yd. sidewalk pavt. was from Ingwald Moe, at $1.36 and $1.10 per sq. yd., respectively; total bid, $8,329. W. P. Cottingham, Asst. City Engr.

★**Hartford City, Ind.**—Contract for paving with macadam 15,837 ft. of Ford Rd. awarded to Harry Clamme at $17,120.

**Huntington, Ind.**—Bids desired until 7.30 p. m., July 20, by Bd. Pub. Wks. for paving First St. with vitr. brick, sheet asphalt, wood block or bituminous concrete, 10,100 sq. yds. H. I. Young, City Clk.

**Indiana.**—Bids desired by County Commissioners for constructing roads as follows:

Until Aug. 3:

Columbia City, 3 roads in Union Township.

Ft. Wayne, macadam road on line between Wayne and Washington townships and stone road in Eel River Township.

Hartford City, 4 roads; Franklin and Monroe Rd., Licking Township, Union Center Rd., Jackson Township and Roberts Rd., Harrison Township.

Until Aug. 4:

Logansport, 5 roads; 2 in Eel Township and one each in Tipton, Clay and Fairmount townships.

Until Aug. 7:

Bloomfield, roads in Wright and Smith townships.

★**Indianapolis, Ind.**—Contracts for paving awarded by Bd. Wks. as follows: Asphalt on Beville St. to Union Asphalt Constr. Co., at $2.50 per lin. ft.; 40th St., with asphalt, to Wm. F. Moore, $3.28 per lin. ft.; grade and gravel Shriver Ave., to Raymond Lackey, $1.59 per lin. ft.

Contracts for paving awarded by Bd. Wks. as follows: To American Constr. Co., Indianapolis, bituminous concrete, Julian Ave., at $2.23; Merrill St. with asphalt, $2.90; Highland Drive, asphalt, $2.50; 20th St., asphalt, $2.82, and Southwestern Ave., to Union Asphalt Constr. Co., at $3.05; price given per lin. ft.

★**Jasper, Ind.**—Contract for constructing 2 miles macadam road in Bainbridge Township awarded to Jasper N. Kinman, Petersburg, at $10,500.

**Muncie, Ind.**—Bids desired until July 25 by Bd. Pub. Wks. for paving Liberty and Gilbert Sts. and 3 alleys; also constructing cement sidewalks on Brady and Penn Sts.

★**Peru, Ind.**—Contract for paving 2 streets with asphalt awarded to Western Constr. Co., Peru, at $125,000.

**Rochester, Ind.**—Citizens voted to construct two concrete roads around Lake Manitou.

★**Iron Mountain, Mich.**—Contract for paving Ludington St. with bituminous macadam awarded to Hicks & Barber, Vulcan, Mich., at $60,000.

★**Norway, Mich.**—Contract for paving with bituminous macadam Nelson St. awarded by City Council to B. W. Hicks, Vulcan, at $7,300.

**Berwyn, Ill.**—Bids desired until July 21 by Secretary Bd. Local Improv. for constructing cement sidewalks on Ridgeland Ave. and other streets. Arthur R. Wolfe, Engr., 39 S. La Salle St., Chicago.

**Dolton, Ill.**—Bids desired until 8 p. m., July 20, by Bd. Village Trus. for constructing concrete pavement on 144th Pl., Oak and Frederic Sts. and Irven Ave., approximately 4080 sq. yds. pavement, etc.

**Illinois.**—Bids desired by State Highway Comn., Springfield, for State Aid work in counties as follows, all cement to be furnished by State [type of construction (a) concrete, (b) brick]. A. N. Johnson, State Highway Engr.

Until July 22:

| Counties | Route | Length ft. | | Cost |
|---|---|---|---|---|
| Vermilion | 2 | 16,100 | (b) | $48,030.59 |
| Peoria | 4 | 6,159.2 | (a) | 12,680.82 |
| Champaign | 5 | 6,160 | (b) | 12,778.66 |
| Champaign | 3 | 6,600 | (b) | 14,619.22 |

Until July 28:

| Counties | Route | Length ft. | | Cost |
|---|---|---|---|---|
| Coles | 8 & 15 | 6,000 | (b) | $14,122.08 |
| Scott | 4 | 1,890 | (a) | 3,000.00 |
| Stephenson | 9 | 3,000 | (b) | 13,035.32 |
| Logan | 3 | 3,000 | (a) | 3,866.12 |
| Logan | 7 | 3,600 | (a) | 5,689.47 |
| Logan | 8 | 3,600 | (a) | 5,171.55 |
| Logan | 13 | 3,600 | (a) | 5,811.56 |
| Tazewell | 9a | 4,280 | (a) | 7,765.31 |
| Tazewell | 10 | 5,300 | (a) | 7,397.83 |
| Tazewell | 11 | 1,800 | (a) | 2,852.20 |

★**Illinois.**—Contracts awarded by State Highway Dept. for State Road Work as follows:

★Sangamon County, Sect. "D," Route 6, to John E. Bretz, Springfield, at $4,030; to Henry Nelch & Son, 921 E. Jackson St., Sect. "B" and Sect. "C," Routes 3C and 5, at $5,035 and $4,025, respectively; R. F. Egan, Springfield, Sects. "A" and "E," Routes 2 and 9, at $4,025 and $5,500, respectively.

★Crawford County—Sect. "B," Route 3, Campbell & Dodson, Bloomington, Ind., $17,493.

★Ogle County—Sect. "A," Route 3, Gund Graham Co., Freeport, $21,400.

★De Kalb County—To C. W. Jensen & Co., Chicago, Sect. "A" and Sect. "C," Route 1, at $7,299 and $21,399, respectively.

★Edgar County—To Allen Jay Parrish, Paris, Ill., Sects. "A" and "B," Routes 2 and 6, at $10,400 and $10,235.

★Lake County—Sect. "A," Route 6, H. J. Goelite Co., Oak Park, $19,900.

★Iroquois County—Sect. "A," Route 7, to Davis-Ewing Concrete Co., Bloomington, $15,890.

**Herrin, Ill.**—Bids desired until July 21 by Bd. Local Improv. for improvement in Paving Dist. No. 1. Engineer's estimate: 24,800 sq. yd. vitr. brick pavt. on Portland cement concrete foundation, 6 in. thick, 10,125 lin. ft. sandstone curb, 2406 lin. ft. 8 to 18-in. sewer, etc. Total cost, $65,128.

**Marinette, Wis.**—Bids desired until July 31 by City Clerk for improving Chestnut St. by paving with a 9-in. macadam pavt. for a width of 28 ft.

★**Milwaukee, Wis.**—Contract awarded by County Bd. for paving with asphalt National Ave. to Badger Constr. Co., 97 Wisconsin St., at $34,000.

**Reedsburg, Wis.**—All bids received July 6 for brick pavement on Pine and 2d Sts. rejected. New bids will probably be received Sept. 1. Wm. H. Dierken, City Clk.

★**Cedar Rapids, Ia.**—Contract for constructing sidewalks awarded by City Council to Ford Paving Co. at $6,050.

**Council Bluffs, Ia.**—City Council votes to construct 8 miles walks and 3 miles

**Harlan, Ia.**—Bids reported desired until July 27 for 27 blocks paving. H. J. Mayne, Engr., Merriam Bldg., Council Bluffs. W. H. Samson, Chmn. Street and Alley Com.

★**New Ulm, Minn.**—Contract for 15,203 sq. yd. of paving, including curb and catch basins (bids opened July 7) awarded to Fielding & Shepley, St. Paul, at $37,067. Three next bidders: Widell Co., Mankato, $38,975; Hanlon & Okes, Minneapolis, $38,843, and North Star Concrete Co., Mankato, $37,373. F. D. Minium, City Engr.

**Auburn, Neb.**—Bids desired until July 27 by City Clerk for paving Courthouse Ave., Dist. 3. Engineer's estimate, $21,500.

★**Fargo, N. D.**—Contract for paving with concrete and creosoted wood block on 4th St., South, and 1st Ave. awarded by City Council to S. Birch, Fargo, at $65,000.

**Billings, Mont.**—Bids desired until July 21 by City Clerk for paving in Dist. 108, to consist of approximately 6460 sq. yd.

**Butte, Mont.**—City Council contemplates paving in southern part city cost, about $160,000.

★**Kansas City, Mo.**—Contracts awarded by Bd. Pub. Wks. June 30 for paving as follows: 10th St., asphalt, to A. Jaicks, $1.37; Main St., asphalt, macadam, to C. J. Brosnahan, $1.16½; 20th St., creosote wood block, A. R. Mense, $2.69; Cherry, Locust and Oak Sts., with brick, to D. T. Brosnahan at $1.92 and $2.04.

Bids desired until July 21 by Bd. Pub. Wks., for asphalt pavement on Grauman Ave., vitr. brick on 24th St., Portland cement concrete on 7th and 55th Sts., and artificial stone sidewalks on Baltimore Ave. and Cherry St., and concrete gutter on 55th St., etc.

**St. Louis, Mo.**—Municipal Assembly voted to pave with telford and construct sidewalks on Oakland Ave.

**Hazen, Ark.**—Surveys being made by State Highway Engineer at Little Rock for 12-mile road at Hazen.

★*Items marked thus give the names of parties awarded contracts.*

**San Antonio, Tex.**—Following are only bids received by County Comrs. Court, June 30, for graveling roads: 12 miles Rockport Rd., W. H. Davis, $16,922; 8 miles Trainer-Hale Rd., R. M. Johnson, $11,342.

**Howe, Okla.**—Citizens voted $15,000 bonds for road improvements.

**Colville, Wash.**—Bids reported desired until July 27 by County Auditor for grading, clearing, bridging and surfacing 3 miles highway known as Meyers Falls, Colville Rd.

★**Connell, Wash.**—Contract for constructing 2 miles of highway awarded to Warren Constr. Co., Portland, Ore., $25,-769, Warrenite pavement. J. W. Hamilton, Co. Engr.

★**Olympia, Wash.**—Contract for constructing 13 miles macadam pavement on Sunset Highway awarded by State Highway Comn., July 6, to H. L. Wilson, Walla Walla, at $17,000.

**Raymond, Wash.**—County Engineer is in favor Bear River Route for National Park Highway to Ocean Beach; cost, $20,000.

★**Seattle, Wash.**—Contract for constructing Cascade Scenic Highway, distance 27 miles, awarded by County Comrs., July 7, to Nettleton-Bruce, Eachbach Co., American Bank Bldg., Seattle, at $141,170.

★Contract for constructing concrete sidewalk on Franklin Ave. awarded to D. H. Traphagen, Lincoln Hotel, at $8,985.

★**Shelton, Wash.**—Contract for constructing Highway No. 2 awarded to Kent, Leisure & Ellison, Shelton, at $11,-974. Next three lowest bidders, August Wallin, Aberdeen, $12,850; David Govon, Lilliwaup, $14,555; Allred & James, Centralia, $15,150. Eva L. Robinson, Co. Aud.

**Spokane, Wash.**—Lowest bid opened for constructing 6 miles Normal Rd. submitted by Spokane Bitu-Mas Paving Co., at $33,218.

★**Astoria, Ore.**—Contract for paving 2 miles with Warrenite on county road from Seaside north awarded by County Court to Warren Constr. Co., Portland, at $1.25 per sq. yd.

**Jacksonville, Ore.**—Plans completed by County Engineer for constructing road from Jacksonville to Ashland; cost, $75,000.

★**Seaside, Ore.**—Contract for constructing concrete sidewalks awarded by City Council to Jas. Kennedy Co.; reported cost, $10,000.

**Troutdale, Ore.**—About $100,000 is to be spent on constructing roads on Sun Dial Ranch, H. C. Campbell, Pres.

**California**—Bids reported desired until Aug. 10 by the State Highway Comn., Forum Bldg., Sacramento, for the following new state highway sections:

Mendocino Co., Hopland to Ukiah, about 11.4 miles, to be graded and a portion paved.

Humboldt Co., Miranda to Dyerville, about 13.8 miles, to be graded.

Santa Clara Co., Santa Clara to San Jose, about 1.9 miles concrete with asphaltic surface.

Santa Clara Co., from northerly county boundary to San Jose, about 6.8 miles, to be built of concrete.

Contra Costa Co., San Pablo Creek to Pinole, about 3.6 miles, to be graded.

Humboldt Co., Shively to Jordan Creek, about 5 miles, to be built of concrete.

Santa Barbara Co., El Capitan Creek to Alcatraz, about 9.3 miles, to be graded.

Orange Co., Calivan to Irvine, about 9.4 miles, to be built of concrete.

Imperial Co., Myers Creek to Coyote Wells, about 6 miles, to be built of concrete.

Bids also desired until Aug. 10 (readvertisement), as follows:

San Diego Co., between La Mesa and El Cajon, about 1.6 miles, cement concrete paving.

Kern Co., Grape Vine and Secs. 5 and 6, Township 32 S., R 28 E., M. D. B. & M., about 17.3 miles, cement concrete paving.

Santa Barbara Co., between Orcutt and Santa Maria, about 6½ miles, cement concrete base, with asphaltic wearing surface.

San Benito Co., between San Juan Bautista and north boundary, about 4 miles, cement concrete paving. Austin B. Fletcher, State Highway Engr., Sacramento.

**California.**—Following are bids received by State Highway Comn., July 6, for constructing state highways:

Yolo County, Division 3, Route 7, Sect. A: only bid M. Blumenkranz, Stockton, 19,000 cu. yds. excav., without classification, 55 cts.; corrugated iron pipes, 192 lin. ft. 12-in., 50 cts; 120 lin. ft. 18-in., 60 cts.; 48 lin. ft. 24-in., 70 cts.; 190 cu. yds. cement concrete, Class "B" (culverts and monuments), $12.50; 11,500 cu. yds. cement concrete, Class "B" (pavement), $3.50; 1600 lin. ft. guard rail, 40 cts.; 72 monuments, $1; total, $53,988.

Tehama County, Div. 2, Route 3, Sect. A: Only bid, Geo. Vogelgsang, Tehama, 33,500 cu. yds. excavation, without classification, 57 cts.; corrugated iron pipe, 354 lin. ft. 12-in., 46 cts.; 168 lin. ft. 18-in., 57½ cts.; 132 lin. ft. 24-in., 69 cts; 482 cu. yds. cement concrete, Class "B" (culverts and monuments), $8.05; 10,380 cu. yds. cement concrete, Class "B" (pavement), $3.45; 1220 lin. ft. guard rail, 46 cts.; 108 monuments, haul and set, 57½ cts.; total, $59,760.

Santa Cruz County, Div. 4, Route 5, Sect. A: 2 formal bids, Jas. H. Smith, San Francisco, $56,948, and Occidental Constr. Co., Los Angeles, $54,761. Detail bid of lowest bidder, Occidental Constr. Co., 75,000 cu. yds. excavation, without classification, 55 cts.; corrugated iron pipe, 700 lin. ft. 12-in., 35 cts.; 50 lin. ft. 15-in., 45 cts.; 1420 lin. ft. 18-in., 55 cts.; 80 lin. ft. 21-in., 75 cts; 420 lin. ft. 24-in., 85 cts.; 340 lin. ft. 30-in., $1.10; 520 cu. yds. cement concrete, Class A (culverts), $12; 130 cu. yds. cement concrete, Class B (culverts and monuments), $14; 9000 lin. ft. guard rail, 35 cts.; 462 monuments hauled and set, $1.

San Diego County, Division 7, Route 12, Sect. B, only bidder, G. L. Hyde Constr. Co., San Diego, 3150 cu. yds. excav., without classification, 50 cts.; 100 lin. ft. corrugated iron pipe, 18-in., 45 cts.; 24 cu. yds. cement concrete (culverts), Class "A," $15; 13 cu. yds. cement concrete (culverts and monuments), Class "B," $15; 1520 cu. yds. cement concrete (paving), Class "B," $6,000; 1840 lin. ft. guard rail, 40 cts.; 57 monuments, haul and set, 50 cts.; total, $12,059.

Shasta County, Division 2, Route 3, Sects. B and C; 2 bidders. Detail bid of Palmer & McBryde, San Francisco, lowest bidder: 81,290 cu. yds. earth excav., 77 cts.; 15,390 cu. yds. loose rock excav., 77 cts.; 68,390 cu. yds. solid rock excav., 77 cts.; corrugated iron pipe, 4494 lin. ft. 12-in., $175; 1776 lin. ft. 18-in., $2; 760 lin. ft. 24-in., $2.25; 30 cu. yds. cement concrete, Class "A" (culverts), $11; 947 cu. yds. cement concrete, Class "B" (culverts and monuments), $10; 2680 cu. yds. dry rubble retaining walls, $3.50; 670 cu. yds. rubble masonry retaining walls, $4; 7410 lin. ft. guard rail, 40 cts.; 1162 monuments, haul and set, $1; total, $166,216; total of other bid, Carnahan & Mulford, San Francisco, $168,477.

San Luis Obispo County, Div. 5, Route 2, Sect. E; only bidder Rogers Bros. Co., Los Angeles, 77,950 cu. yds. excav., without classification, 46 cts.; corrugated iron pipe, 1660 lin. ft. 12-in., 50 cts.; 175 lin. ft. 18-in., 70 cts.; 700 lin. ft. 24-in., 80 cts.; 260 lin. ft. 36-in., $1; 835 cu. yds. cement concrete Class B culverts and monuments, $10; 13,125 cu. yds. cement concrete Class B paving, $3.10; 319 monuments, haul and set, $1; total, $86,986.

Kern County, Div. 6, Route 4, Sect. B; only bid, Lynn S. Atkinson, Los Angeles, 38,250 cu. yds. ordinary excav., 50 cts.; 35,000 cu. yds. borrow excav., 50 cts.; corrugated iron pipe, 150 lin. ft. 12-in., $1; 90 lin. ft. 18-in., $1; 110 cu. yds. cement concrete Class A culverts, $15; 190 cu. yds. cement concrete Class B culverts and monuments, $15; 17,650 cu. yds. cement concrete Class "B" pavement, $8; 76 monuments, haul and set, $1; total, $182,641.

Ventura County, Div. 7, Route 2, Sect. B; detail bid of lowest bidder, Lehigh G. Garnsey, Los Angeles, 47,720 cu. yds. earth excav., 45 cts.; 10,420 cu. yds. loose rock excav., 60 cts.; 26,340 cu. yds. solid rock excav., 80 cts.; corrugated iron pipe, 35 lin. ft. 12-in., 40 cts.; 1381 lin. ft. 18-in., 50 cts.; 345 lin. ft. 24-in., 75 cts.; 70 cu. yds. Class A cement concrete culverts, $15; 80 cu. yds. Class B cement concrete culverts and monuments, $15; 934 cu. yds. cement concrete Class "B" pavements, $4.35; 6410 lin. ft. guard rail, 50 cts.; 276 monuments, haul and set, $1; total, $96,-121. Totals of two other bids received: C. H. Hudson, Los Angeles, $99,191, and Rogers Bros. Co., Los Angeles, $97,704.

★**Los Angeles, Cal.**—Contract for paving and draining 3d St. tunnel awarded to Bryant & Austin, at $11,894, and for furnishing 20,000 bbls. oil for use on streets and other public places, to Brashear Burns Co., at 99.8 cts. per bbl.

City Council voted to pave Lakeshore Boule.

★Contract for supplying city with 20,000 bbl. road oil awarded to Brashear-Burns Co., at 99.8 cts. per bbl.

**Oakland, Cal.**—City Council voted to pave with asphalt San Pablo Ave. paving and gutters

**Red Bluff, Cal.**—Surveys being made through Barry Lands for 3-mile State Highway; cost, $90,000.

**Pocatello, Idaho.**—Bids desired until July 31 by State Highway Comn., Boise, for constructing portions of State highways in Bannock Co. Total about 49 miles. This work contemplates construction of roads of earth, gravel and sand clay.

★**Ottawa, Ont.**—Contract for 34,000 sq. yd. asphalt pavt. (bids opened June 25) awarded to Ottawa Constr. Co., Ottawa, at about $93,435.

★**Welland, Ont.**—Contract awarded on bids opened July 9 for about 6200 sq. yds. pavt. to Canada Creosoting Co., Toronto, $22,442 for creosoted wood blocks. C. M. Webber, Clk.

**Lulu Island, B. C.**—City Council voted to construct a 100-ft. 5-mile highway.

**Vancouver, B. C.**—Bd. Wks. approved plans for pavements to cost $20,000.

**Victoria, B. C.**—City Council considering paving road from Dallas Rd. to city limits; cost, about $170,000.

## HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

*Items Arranged Geographically*

**Dredging—Boston, Mass.**—Bids desired until July 21 by Bd. Harbor and Land Comrs., Boston, for dredging at Scituate Harbor, about 60,000 cu. yd., and Mill River, Gloucester, 20,000 cu. yd.

**State Canal Work—Albany, N. Y.**—Lowest bid received July 7 by State Superintendent Pub. Wks. for Gowanus Barge Canal terminal was submitted by Geo. W. Rogers, Inc., New York, at $313,130.

★**State Canal Work—Albany, N. Y.**—Bids opened as follows, July 7, by State Pub. Wks., Albany, for State Canal work:

★Terminals at Gowanus Canal: Engineer's estimate, $365,707; Geo. W. Rogers & Co., Inc., New York, N. Y., $313,130 (awarded contract); Maryland Dredg. & Contr. Co., Medina, $320,975; Eugene Breymann, New York, $326,829; P. J. Carlin Constr. Co., New York, $331,753; Canal Constr. Co., New York, $365,116; Phoenix Constr. Co., New York, $371,253; United States Realty & Improv. Co., New York, $385,611; John Monks & Sons, New York, $746,719.

★Terminals on Lake Ontario, Oswego: Engineer's estimate, $415,420; H. S. Kerbaugh, Inc., New York, $348,684 (awarded contract); D. L. Taylor, Medina, $371,978; Great Lakes Dredg. & Dock Co., Buffalo, $374,257.

**State Canal Work—Albany, N. Y.**—Bids desired until Aug. 11 by State Supt. Pub. Wks., Albany, for following, advertised in Engineering Record:

Contract 1—A Champlain Canal, Sect. 2, constructing canal from Crocker's Reef to Ft. Edward (readvertisement).

Constructing certain highways adjacent to Hinckley reservoir, Sections 2, 3, 4, 5, 7, 8, 9, 10 and 14.

Terminal Contract, No. 34, constructing dock wall on east bank of Hudson River at Thomson, near Northumberland Dam.

**Dock—Trenton, N. J.**—Site selected for 500-ft. municipal dock along Delaware River. Plans approved and $50,000 appropriation made for construction. Fredk. W. Donnelly, Mayor.

**Dredging—Baltimore, Md.**—Bids desired until July 24 by Col. Lansing H. Beach, Corps Engrs., U. S. A., Baltimore, for dredging in Broad Creek, Md., advertised in Engineering Record.

★**Wharf—Fort Wool, Va.**—Contract awarded to F. L. Tennis, of Hampton, Va., at $3,370 for repairs to the wharf at Fort Wool.

★**Dredging—Norfolk, Va.**—Contract for dredging inland waterway from Norfolk, Va., to Beaufort Inlet, N. C., awarded to the Bowers Southern Dredge Co., of Galveston, Tex., at $100,300.

**Canal—Charleston, S. C.**—Construction of a navigable canal between Sanatee and Cooper Rivers and building a hydro-electric plant at the intersection of the proposed waterway with the latter stream is contemplated by the Sanatee-Cooper Development Co., applications having been made to the War Department for permission to divert one half of the waters of Sanatee River into the canal and construct a submerged canal across the stream for the purpose of diverting the water. It is proposed to construct a canal some 24 miles in length extending from the mouth of Greenland swamp on Sanatee River to the mouth of Biggin swamp on west branch of Cooper River.

★**Dock—Charleston, S. C.**—Contract for Clinchfield coal dock awarded to MacArthur Bros., New York.

★**Piers, Etc.—Augusta, Ga.**—Contracts for piers and warehouses for the barge canal line have been awarded by Bridges, Rivers and Wharves Com. as follows (bids opened July 3): Construction of piles, Simmons & Maryatn, Charleston, S. C., at $8,873; concrete floors, McKenzie Constr. Co., Augusta, $9,350; also hoist, 2 auto trucks and lift bridge, to McKenzie Constr. Co. at a total of $7,650; steel shed, W. F. Bowe, Augusta, $10,840; plumbing, T. G. Brittingham, Augusta, $995.

★**Dredging—Ft. Moultrie, Ga.**—The Simons-Mayrant Co., Charleston, S. C., secured contract at $3,360 for dredging channel to Fort Moultrie.

**Drainage System—New Orleans, La.**—Following are totals of all bids received June 17 by Sewerage and Water Bd. for Contract 63-D—underground conduits for Sewerage Station "C": H. W. Bond & Bro., $4,584; J. R. Stiehl, $4,505; M. J. Flynn, $4,747; Theo. H. Hotard, $5,148; G. M. Gest, $5,623.

Following are the bids received June 17 by Sewerage and Water Bd., New Orleans, for Contract 65-D—Leonidas and Lower-Line Canals, and Contract 66-D—Nashville Ave., Robertson, Delord-Willow Canals:

Contract 65-D: (a) A. L. Patterson, $138,932; (b) M. W. Wren, $114,517; (c) Hampton Reynolds, $128,100; (d) F. A. Noullet & Son, $120,377; Theo. O. Hotard, $101,358; Wm. J. Kane, $114,932:

Unit prices of (a), (b), (c) and (d):

| | (a) | (b) | (c) | (d) |
|---|---|---|---|---|
| 12,000 cu. yds. excav. | $1.60 | $1.00 | $0.75 | $1.39 |
| 10,000 cu. yds. overhaul | .04 | .08 | .15 | .07 |
| 160 cu. yds. brickwork | 11.00 | 9.50 | 8.25 | 10.62 |
| 2,400 cu. yds. concrete 1:2:4 in place | 8.35 | 7.50 | 8.55 | 6.85 |
| 6,200 cu. yds. concrete 1:3:6 in place | 8.00 | 6.75 | 7.90 | 6.42 |
| 6,500 sq. yds. surfacing | .44 | .30 | .40 | .365 |
| 465,000 lbs. steel reinforcing rods | .025 | .025 | .03 | .0248 |
| 35,000 lbs. cast iron | .02 | .025 | .025 | .022 |
| 58,000 lin. ft. round yellow pine piling, driven | .22 | .185 | .20 | .20 |
| 92,000 ft. b. m. yellow pine lumber placed in bridges, etc. | 44.00 | 32.00 | 32.50 | 40.00 |
| 310,000 ft. b. m. pecky cypress planking in place | 30.00 | 20.00 | 30.00 | 29.50 |
| 50 lin. ft. vitr. clay pipe, 36-in. | 5.05 | 4.25 | 4.10 | 4.94 |
| 50 lin. ft. vitr. clay pipe, 27-in. | 2.73 | 2.25 | 2.15 | 2.51 |
| 400 lin. ft. vitr. clay pipe, 24-in. | 1.95 | 1.90 | 1.35 | 1.58 |
| 300 lin. ft. vitr. clay pipe, 21-in. | 1.35 | 1.05 | 1.05 | 1.205 |
| 200 lin. ft. vitr. clay pipe, 18-in. | 1.00 | 1.00 | .75 | .875 |
| 400 lin. ft. vitr. clay pipe, 15-in. | .68 | .70 | .50 | .615 |
| 200 lin. ft. vitr. clay pipe, 12-in. | .45 | .50 | .35 | .445 |
| 7,600 lin. ft. vitr. clay pipe, 10-in. | .36 | .33 | .30 | .34 |
| 2,500 lin. ft. vitr. clay pipe, 6-in. | .20 | .15 | .15 | .18 |
| 5,000 ft. b. m. cypress curb., in place | 36.00 | 25.00 | 28.00 | 35.65 |
| 70 sq. yds. granitoid pavt., taken up and relaid | 3.50 | 3.25 | 4.00 | 3.00 |
| 50 sq. yds. asphalt pavt., taken up and relaid | 3.00 | 3.00 | 3.00 | 3.00 |
| 150 sq. yds. Schillinger pavt., taken up and relaid (sidewalks) | 1.20 | 1.15 | 1.00 | .90 |
| 100 sq. yds. brick pavt., taken up and relaid (sidewalks) | .60 | .60 | .40 | .35 |
| 50 sq. yds. gravel pavt., taken up and relaid | .80 | .25 | 1.00 | .34 |
| 150 cu. yds. hard filling, in place | 2.75 | 2.75 | 2.75 | 2.13 |

Contract 66-D: (a) F. A. Noullet & Son, $249,766; (b) A. L. Patterson, $286,563; (c) Hampton Reynolds, $284,563; (d) Wm. J. Kane, $247,059.

Unit prices of (a), (b), (c) and (d):

| | (a) | (b) | (c) | (d) |
|---|---|---|---|---|
| 53,000 cu. yds. excav. | $0.97 | $1.20 | $1.10 | $1.03 |
| 40,000 cu. yds. overhaul | .07 | .10 | .15 | .17 |
| 790 cu. yds. brickwork | 10.98 | 11.00 | 9.00 | 8.85 |
| 3,900 cu. yds. concrete 1:2:4 in place | 6.84 | 8.35 | 8.00 | 7.42 |
| 9,800 cu. yds. concrete 1:3:6 in place | 6.38 | 7.75 | 7.30 | 6.55 |
| 10,800 sq. yds. surfacing | .37 | .44 | .40 | .34 |
| 761,000 lbs. steel reinforcing rods | .0248 | .025 | .03 | .022 |
| 268,000 lbs. cast iron | .0222 | .02 | .025 | .018 |
| 112,000 lin. ft. round yellow pine piling, driven | .26 | .27 | .35 | .24 |
| 131,000 ft. b. m. yellow pine lumber placed in bridges, etc. | 39.50 | 44.00 | 35.00 | 41.00 |
| 541,000 ft. b. m. pecky cypress planking in place | 29.00 | 30.00 | 30.50 | 24.00 |
| 350 lin. ft. vitr. clay pipe, 36-in. | 4.94 | 5.05 | 4.10 | 3.85 |
| 450 lin. ft. vitr. clay pipe, 30-in. | 3.18 | 3.40 | 2.60 | 2.50 |
| 150 lin. ft. vitr. clay pipe, 27-in. | 2.51 | 2.73 | 2.15 | 2.07 |
| 550 lin. ft. vitr. clay pipe, 24-in. | 1.61 | 1.95 | 1.35 | 1.23 |
| 550 lin. ft. vitr. clay pipe, 21-in. | 1.25 | 1.35 | 1.05 | .945 |
| 1,200 lin. ft. vitr. clay pipe, 18-in. | .90 | 1.00 | .75 | .66 |
| 1,250 lin. ft. vitr. clay pipe, 15-in. | .62 | .68 | .50 | .425 |
| 1,800 lin. ft. vitr. clay pipe, 12-in. | .45 | .45 | .35 | .295 |
| 19,000 lin. ft. vitr. clay pipe, 10-in. | .34 | .36 | .30 | .34 |
| 4,600 lin. ft. vitr. clay pipe, 6-in. | .18 | .20 | .15 | .118 |
| 900 cu. yds. sand and cinders, in place | 1.96 | 2.00 | 1.50 | .01 |
| 200 lin. ft. stone curb, reset and relined | .115 | .14 | .20 | .12 |
| 100 sq. ft. stone curb, removed | .05 | .14 | .15 | .06 |
| 26,000 ft. b. m. cypress curb, in place | 35.65 | 36.00 | 28.00 | 41.00 |
| 50 sq. yds. vitr. brick pavt., taken up and relaid | 1.60 | 2.65 | 2.00 | 1.38 |
| 100 sq. yds. chert pavt., taken up and relaid | .34 | 1.00 | 1.00 | .18 |
| 100 sq. yds. asphalt pavt., taken up and relaid | 3.00 | 3.00 | 3.00 | 3.00 |
| 300 sq. yds. Schillinger pavt., taken up and relaid (sidewalks) | .93 | 1.20 | 1.00 | .96 |
| 100 sq. yds. brick pavt., taken up and relaid (sidewalks) | .36 | .60 | .40 | .30 |
| 100 sq. yds. gravel pavt., taken up and relaid | .34 | .80 | 1.00 | .18 |
| 150 cu. yds. hard filling, in place | 2.24 | 2.90 | 2.75 | 2.75 |

★*Items marked thus give the names of parties awarded contracts.*

**Dock Bonds—Miama, Fla.**—See "Sewerage and Sewage Disposal."

**Drainage Bonds—Tallahassee, Fla.**—Bids desired until Aug. 20 by Secretary Bd. Drainage Comrs., Everglades Drainage Dist., for $1,000,000 drainage bonds.

**Drainage—Marks, Miss.**—Morgan Eng. Co. submitted a report recommending to Yazoo Coldwater Drainage Dist., Memphis, Tenn., that a canal be constructed from Marks, Miss., to Askew, on Coldwater River, at a cost of $600,000.

★**Jetty Work—New Orleans, La.**—Contract for furnishing and placing on jetties at Southwest Pass, Mississippi River, near their sea ends, about 25,000 tons of stone bids opened June 20 by Maj. Edw. Schulz, Corps Engrs., U. S. A., New Orleans) have been awarded to Lester F. Alexander, New Orleans, at $4.24 per ton, total $106,000. Other bids received were: Oscar F. Barrett, Cincinnati, O., $6 and $150,000; Geo. B. Christie, New Orleans, $4.45 and $111,250.

**Drainage Work—New Orleans, La.**—Lowest bid received June 17 by Sewerage and Water Board for Contract 62-D, travling crane and drainage, pumping station No. 5, was from Northern Eng. Co., at $1,790.

**Levee—New Orleans, La.**—Lowest of the bids received July 7, by Bd. Levee Comrs., Orleans Levee Dist., New Orleans, for constructing in 5th Dist., Mississippi River right bank, the following levees, were submitted by Louisiana Constr. Co., Baton Rouge, on the Camus, 856 ft. long, to Aurora levee, 125,000 cu. yds., at 15.38 cts. per cu. yd., and by J. M. Sullivan, New Orleans, for Orleans New levee, 3900 ft. long, 125,000 cu. yds., at 18.68 cts. per cu. yd. C. J. Donned, Secy.

**Levee Work—New Orleans, La.**—Bids desired until July 28 by Bd. State Engrs., 13 New Orleans Court Bldg., New Orleans, for constructing levee work as follows: Raising and enlarging in Louisiana Mississippi River, right bank, Donna Vista Levee, parish of East Carroll, approximately 30,000 cu. yds.; Longwood Levee, Parish East Carroll, 175,000 cu. yds.; Mascot Levee, Parish of Madison, 170,000 cu. yds. Frank M. Kerr, Ch. State Engr., Baton Rouge.

★**Breakwater, Cleveland, O.**—Contract awarded to Edw. Gillen Dock, Dredge & Constr. Co., Racine, Wis., at $148,441, for completing east breakwater extension, Cleveland Harbor, O.

**Ditch—Warren, O.**—Bids desired until Aug. 4 by County Aud., for constructing Johnston Noble Ditch (Swine Creek), Mesopotamia Township, including deepening, widening and straightening Swine Creek, containing 46,562 cu. yds., 2.46 miles long. R. E. Hempel, Co. Surv.

**Ditch—Huntington, Ind.**—Bids reported desired until July 22 by County Auditor, for redredging and cleaning Cow Creek Ditch, 1½ miles; also until July 27 for 34,000 cu. yds. excavation in Bull Creek Ditch.

★**Pumping Plant—Carrollton, Ill.**—Detail bid of the Arrow Eng. Co., St. Louis, Mo., successful bidder for constructing the pumping plant (bids opened July 1) was as follows: Trash rock, $1,090; suction bag, $2,202; machinery foundations, $1,100; pipe piers and supports, $1,080; discharging bag, $1,989; brick building, $3,600; machinery complete, $19,921; heating plant, $450. Caldwell Eng. Co., Engrs., Jacksonville, Ill.

**Dock—Chicago, Ill.** — Oceanic dock, northwest of the O. W. R. & N. shops, owned by Balfour, Guthrie & Co., reported destroyed by fire.

**Drainage—Gridley, Ill.**—Bids desired until July 30 Comrs. Gridley Township, Drainage Dist. No. 1, for constructing Sect. 1, Main Ditch, Sta. 0 to 289, and Sect. 2, Main Ditch, Sta. 289 to 318, requiring 39,600 cu. yds and 1250 cu. yds., respectively. Jacob A. Harman, Ch. Engr., Peoria.

★**Drainage Work—Janesville, Wis.**—Contract for improving Bass Creek Drainage Dist. (bids opened July 6) awarded to Warner Dredg. Co., Valley Junction, Wis., at $14,193. Work includes 164,700 cu. yd. earth excav., 6.44 acres clearing, etc. Two next bidders: Schultz & Bieck, South Milwaukee, $14,556; G. A. McWilliams, Chicago, Ill., $15,390. H. H. Tubbs, Engr., Elkhorn, Wis.

★**Drain—Boone, Ia.**—Contract for constructing Mutual Tile Drain (bids opened July 11) awarded to A. S. & Arthur Rose, Boone, at $3,162.

★**Drain—Ft. Dodge, Ia.**—Contract for constructing Tile Drain No. 191 awarded as follows: Labor, to Sargent Tile Ditcher Co., Ft. Dodge, at $5,526, and material to Lehigh Sewer Pipe & Tile Co., Ft. Dodge, at $13,732. J. L. Hannalan, Co. Aud.

**Ditch—Perry, Ia.**—Bids will be opened July 20 by County Clerk, at Adel, for constructing Dallas County Drainage Ditch No. 30, the same being a combination storm sewer and County Drain for City of Perry. Estimated cost, $10,000. Chas. E. Wilson, Engr., Perry.

**Ditch—Bemidji, Minn.**—All bids received July 8 for constructing ditches Nos. 22 and 23 have been rejected; new bids will be asked. The work includes Ditch 22, about 13 miles long, dirt to be excavated, 93,682 cu. yd. Estimated cost, about $16,868, including highway, and about 20 miles of creek to clean out. Ditch 23, about 40.6 miles long, dirt excavated, about 316,337 cu. yd. Estimated cost, about $50,829, including highway and clearing about 22 miles creek. J. L. George, Co. Aud.

★**Ditch—Slayton, Minn.**—Contract for constructing Ditch No. 29 (bids opened July 7) awarded by County Comrs. to P. B. Jenninges, Wanda, at $22,769 for concrete tile, approximately 54,157 ft. 8 to 30-in. Other bids received (clay tile unless otherwise stated): Worthington Concrete Tile Co., concrete, $24,000; Parrish & Sedgley, Worthington, $24,500; F. Desorman, Mankato, $23,750; Redding & Smaage, Windom, $23,690. W. A. Seeman, Co. Aud.

**Metal Flumes—Great Falls, Mont.**—Following are the bids received July 1 by U. S. Reclamation Service, Great Falls, for furnishing about 1766 lin. ft. metal flumes of various diam.: Hess Flume Co., 2166 15th St., Denver, Col., $5,025; also an alternate bid, $4,972; Hinman Hydraulic Mfg. Co., 1400 W. Colfax Ave., Denver, $6,108; Coast Culvert & Flume Co., Portland, Ore., $6,560; Klauer Mfg. Co., Dubuque, Ia., $6,616; alternate bid, $5,967; Colorado Culvert & Flume Co., Pueblo, Col., $7,560. The detail of the Hess Flume Co. on his first bid were as follows: 97 lin. ft. 5 ft. 6 in. $1.17; 32 lin. 5 ft. 9 in., $1.17; 95 lin. ft. 6 ft 4½ in., $1.38; 5 li ft. 7 ft., $2.07; 1390 lin. ft. 10 ft 10 in, $3.00; 140 lin. ft. 10 ft. 10 in., curved, $3.77; 7 lin ft. 11 ft. 5½ in., $4.90.

★**Ditch—Helena, Mont.**—Contract awarded to Booner & Hughes, of Spokane, by Montana Reservoir & Irrigation Co. for constructing 9 miles for irrigation canals here.

★**Irrigation Work—Malta, Mont.**—Contract awarded by Reclamation Service to Condon & Williams, South Omaha, Neb., for construction work on the St. Mary Canal, St. Mary storage unit, Milk River irrigation project, Mont., at $159,489.

**Levee—St. Louis, Mo.**—Bids desired until Aug. 11 by Mississippi River Comn., International Life Bldg., St. Louis, for constructing about 130,000 cu. yds. earthwork in Sny Island Levee Drainage Dist.

★**Levee—Garland, Ark.**—All bids opened June 4 for constructing about 40,000 cu. yd. levee enlargement on Red River at Spirit Lake, near Garland, Ark., rejected as excessive.

**Drainage—Judsonia, Ark.**—Bids desired until July 20 by Comrs. Overflow Drainage Dist. for approximately 594,700 cu. yds. drainage excavation for main ditch and 22 lateral ditches, about 13 miles in length.

**Levees—Austin, Tex.**—Plans under way for constructing a system of levees for protection against floods in the counties Fannin, Lamar, Red River, Delta, Hopkins, Woods, Dallas, Ellis and Navarro. Arthur Stiles, State Reclamation Comr., Austin.

**Wharf—Beaumont, Tex.**—City Council authorized Mayor Fletcher to acquire 28-acre tract of land fronting river, which will be used for municipal wharves and docks.

**Drainage Work—Cuero, Tex.**—Citizens voted $30,000 bonds for purpose of relieving city from flood waters from the hills.

**Dredging—Galveston, Tex.**—Bids desired until Aug. 12 by Lieut.-Col. C. S. Riche, Corps Engrs., U. S. A., Galveston, for dredging at Port Aransas, Tex., advertised in Engineering Record.

**Wharf, Cold Storage—Seattle, Wash.**—Paul P. Whitman, Central Bldg., Engr. Port Seattle Comn., instructed to prepare plans for wharf and cold storage plant in turning basin of East Waterway terminals; cost, $75,000.

★**Tunnel—Seattle, Wash.** — Contract awarded to Meachman & Babcock, Central Bldg., for constructing 1500 ft. reinforced concrete 18-ft. tunnel under Lake Union at $183,511.

**Dock—Astoria, Ore.**—The Port of Astoria Comn. will ask bids about Aug. 1 on deck and superstructure for new dock; estimated cost, $60,000.

**Irrigation System Plans—Modesto, Cal.**—Competitive plans and specifications desired until July 31 by Engineer Modesto Irrigation Dist., Modesto, for a structure at Gasburg on Main Canal said Dist., to be of a type either steel siphon, 16 ft. diam., 730 ft. long, a steel or concrete flume structure of same length, with an aqueduct cross sectional area of 220 sq. ft.

**Hopper Dredge—San Francisco, Cal.**—Following are four lowest bids received June 18 by Lieut.-Col. Thos. H. Rees, Corps Engrs., U. S. A., for constructing steel seagoing hydraulic hopper dredge "San Pablo": Skinner Shipbuilding & Drydock Co., Baltimore, Md., $205,990; Ellicott Mach. Corp., Baltimore, Md., $229,400; Union Iron Wks., San Francisco, $241,000; United Eng. Co., San Francisco, $247,000.

★**Pier and Ferry Slips—San Francisco, Cal.**—Contract for constructing Pier 35 and 2 ferry slips, Nos. 9 and 10 (bids opened July 2 by State Harbor Comn.) awarded to Healy Tibbitts Constr. Co. at $386,300 for pier and $91,700 for slips. Next two lowest bidders were: Clinton Fireproofing Co., at $455,800, and San Francisco Bridge Co., $414,937, on pier, and Thomson Bridge Co., at $96,315, and San Francisco Bridge Co., $102,850, for 2 slips.

**Irrigation Canal—Turlock, Cal.**—Plans completed for construction of canals of local irrigation district recently damaged by floods. Cost, $50,000.

**Wharf—Mochelle, N. S.**—Bids reported desired until July 31 by Secretary Dept. Pub. Wks., Ottawa, Ont., for constructing stone wharf of solid stone-filled crib work. Main Portion to be 520 ft. long, 20 ft. wide.

**Wharf—Windsor, N. S.**—Bids reported desired until July 31 by Secretary Dept. Pub. Wks., Ottawa, Ont., for harbor improvements, including construction of extension to Government Wharf, 125 ft. long, 25 ft. wide.

**Breakwater—St. John, N. B.**—Bids desired until Aug. 26 (not 20th as previously stated) by Secretary Dept. Pub. Wks., Ottawa, Ont., for constructing an extension to breakwater at Negro Point, St. John County, N. B.

**Gates for Dam—French River, Ont.**—Bids desired until Aug. 10 by Secretary Dept. Pub. Wks., Ottawa, for constructing steel gates, towers and operating machinery for the regulating dam, Big Chaudierie Falls, French River.

**Pier Repairs—Newcastle, Ont.**—Bids desired until Aug. 10 by Secretary Dept. Pub. Wks., Ottawa, for repairs to Eastern Pier, Newcastle.

★**Trent Canal Work—Peterboro, Ont.**—Contract for Sect. 3, Severn River Div., Trent Canal system, awarded to Randolph-Macdonald Co., Toronto, at $901,-141.

**Retaining Wall—Kamloops, B. C.**—Final surveys completed for $50,000 concrete retaining wall for bay shore west of 2d St. dock.

**Jetty—New Westminster, B. C.**—Plans completed by Dept. of Works, Ottawa, Ont., for constructing 700 ft. of Frazier River jetty here.

**Jetty—Stevenson, B. C.**—Bids desired until Aug. 11 by Secretary Dept. Pub. Wks., Ottawa, Ont., for constructing Sect. 2 of jetty at Stevenson, mouth of Fraser River.

**Drydock—Vancouver, B. C.**—Plans completed for the drydock which the Dominion Government, Ottawa, Ont., intends constructing here according to plans by Amalgamated Eng. Co.; probable cost $3,500,000.

## POWER PLANTS, GAS AND ELECTRICITY.

*Items Arranged Geographically*

**West Springfield, Mass.**—Plans and specifications for dam and power house for Ramapogue Ice Co., Westfield River, approved by Co. Comrs.

**Bath, N. Y.**—Plans to be prepared by C. A. Larue, Cohocton, for power house.

**Canaan, N. Y.**—Lebanon Valley Lighting Co. has purchased water power and will install a modern electric lighting and power plant.

**Canandaigua, N. Y.**—City officials considering erecting municipal lighting plant.

**Farmingdale, L. I., N. Y.**—See "Power Plants, Gas and Electricity."

**Luna Park, Coney Island, N. Y.**—Bids desired by Luna Amusement Co., Luna Park, Coney Island, for power and direct lighting plant, advertised in Engineering Record.

**Red Bank, N. J.**—Commissioners considering question of building a municipal electric light plant.

★**Callensburg, Pa.**—Contract for constructing 3 power dams on Clarion River reported awarded to W. L. Church of New York, N. Y. The Callenburg dam is to be 110 ft. above river.

**Lansford, Pa.**—Plans prepared by Panther Valley Electric Light Co., Lansford, for constructing new power house; cost about $7,000.

★**Easton, Md.**—Contract for constructing electric lighting plant awarded to Wilson-Maltman Co., Baltimore, for $22,660.

**Winchester, Va.**—Northern Virginia Power Co. proposes to double capacity of plant.

**Kingston, N. C.**—See "Sewerage and Sewage Disposal."

**Charleston, S. C.**—"See Hydraulic."

**Valdosta, Ga.**—City Council considering constructing an electric light plant.

**Lima, O.**—Issuing of $76,000 bonds to be used for building municipal electric light plant and a boulevard lighting system in business dist. reported under consideration by City Council.

**Chicago, Ill.**—The Pub. Service Co. of Northern Illinois, Chicago, reported contemplating construction of large dam and power plant on the Des Plaines River, 10 miles east of Morris.

City Council ordered Bd. Trus. Sanitary Dist. Chicago to appropriate $70,000 for removing all overhead wires and poles on Western Ave., between 31st St. and the south line of Gage Park, a distance of 2.5 miles, and the placing of same underground.

**Greenup, Ill.**—See "Waterworks."

**Jacksonville, Ill.**—Jacksonville Ry. & Light Co. seeking a heating franchise from City Council. Company proposes to install a steam heating system at an approximate cost of $100,000. D. D. Hayward, of American Steam Co., North Tonawanda, N. Y., prepared plans for the system providing for 7000 ft. mains from 15 to 7 in.

**Lyons, Ia.**—Citizens voted in favor of issuing bonds for a light plant.

**Worthington, Minn.**—Bids desired until July 22 by Village councils of Round Lake, Bigelow and Rushmore at City Hall, Worthington, for constructing an electrical transmission and distribution system for villages of Round Lake, Bigelow and Rushmore. Earle D. Jackson, Engr., St. Paul. W. H. Buchan, City Clk., Worthington.

**Enterprise, Kan.**—Recent election, citizens voted $3,000 bonds for improvements to electric light plant.

**Leavenworth, Kan.** — Brighton coal mine, situated near Leavenworth, taken over by W. J. Squires, of Kansas City, and others, and it is understood that a power plant will be erected and the mine equipped with electrically driven machinery. Proposed improvement estimated at about $500,000.

**Meadville, Mo.**—Installation of municipal electric light plant under consideration.

**New London, Mo.**—Pub. Service Comn., Jefferson City, granted to North Missouri Light & Power Co. permission to install a plant and service in New London.

**St. Louis, Mo.**—See "Public Buildings and Schools."

★**Mexia, Tex.**—Contract for constructing brick power house for Mexia Water, Light & Power Co. awarded to Carl Kauhl of Mexia.

**Temple, Tex.**—Improvements to be made to power house of Texas Power & Light Co. E. S. Fletcher, Mgr.

**Portland, Ore.**—Portland Ry., Light & Power Co. granted permit by State Engineer to construct reservoirs on headwaters of Clackamas River for power purposes. Smaller reservoir will require 30-ft. dam and larger 70-ft. dam.

State Engineer Lewis approved application of W. Holcomb, of Portland, to appropriate 1500 second ft. of water of the Clackamas River for development of 10,255 hp.; cost, about $1,000,000.

## ELECTRIC RAILWAYS.

*Items Arranged Geographically*

**New York, N. Y.**—Public Service Comn. adopted form of contract for constructing Section 2 of Route 48, being part of the William St. branch of 7th Ave. subway, Boro. Manhattan.

**Morgantown, W. Va.**—16-mile extension to Fairmont is being considered by South Morgantown Traction Co. (John Madagan, Pres.)

**Wheeling, W. Va.**—55-mile extension is contemplated by Morgantown & Wheeling Ry. Co. (R. D. Hennen, Ch. Engr., Morgantown) from Blacksville to Wheeling.

**Nashville, Tenn.**—Preliminary arrangements being made by Cumberland Valley & Interurban Electric Ry. Co. to build 80-mile line between Nashville and Sparta via Smithville, with branches to Lebanon, Woodbury and McMinnville. W. G. Baird, Lebanon, Pres.

Nashville Traction Co. will ask County Court for franchise for right-of-way on Murfreesboro Turnpike from city limits on LaFayette St. in Nashville to Una.

**Youngstown, O.**—Extension of Mahoning Valley line to West Austintown, distance of 5 miles, is being considered by Mahoning & Shenango Ry. & Light Co. (L. O. Veser, Ch. Engr.)

**Linton, Ind.**—Coal Belt Traction Co. incorporated to build electric railways in Linton. Capital, $10,000. Directors, Joseph Moss, D. R. Scott.

**Kewanee, Ill.**—Plans being made to finance Kewanee, Bradford & Henry Interurban Ry., 35-mile railway to connect Kewanee, Osceola, Bradford and Henry. C. G. Lampman, Cedar Rapids, is interested.

**Madison, Wis.**—Right-of-way has been secured by Janesville & Madison Traction Co. between Edgerton and Stoughton and plans being made to begin construction of section of line in near future. G. Pickhardt, 409 Washington Bldg., Madison, Pres.

**Manhattan, Kan.**—During the next six weeks Manhattan City & Interurban Ry. Co., will award contracts to build 2 miles of new track in Manhattan.

**Gainesville, Tex.**—Plans being considered to build 170-mile electric railway to connect Dallas, Denton, Bowie, St. Jo, Grapevine, Decatur, Henrietta and Gainesville. Among those interested are J. A. Kemp and C. H. Boedeker.

★*Items marked thus give the names of parties awarded contracts.*

## RAILROADS.

*Items Arranged Geographically*

**Camden, N. J.**—County Bd. of Freeholders adopted plans for abolition of grade crossings at White Horse Pike and City Line. These plans were decided upon at a conference held recently by State Road Com. of the Freeholders, the Street and Railroad Com. of City Council and the representatives of West Jersey & Seashore R. R. Co.

**Washington, Ga.**—Washington & Lincolnton Railway Co. organized with J. R. Dyson, Pres., H. W. Quin, Secy., to construct a railroad connecting the county seats of Wilkes and Lincoln Counties, approximately 20 miles.

**Centreville, Tenn.**—County voted $150,000 bonds to assist in building the proposed Nashville, Shiloh & Corinth Ry.

**Balsam Lake, Wis.**—Balsam Lake & Eastern Ry. Co. incorporated to construct a railroad between Balsam Lake to Centuria. Capital $100,000. J. W. Park, W. R. Taylor and others, incorporators.

## PUBLIC BUILDINGS AND SCHOOLS.

*Items Arranged Geographically*

**Boston, Mass.**—Bids desired until July 21 by Schoolhouse Comrs., Boston, for general work in Austin School, Paris St., East Boston; also general and sanitation work in Winthrop St. School, Roxbury.

★Contract for roofing and sheet metal work on State House Extension awarded by Executive Council to E. B. Badger & Son Co., at $11,617.

**★Chelsea, Mass.**—Contract for installing heating system in U. S. naval hospital, Chelsea, awarded to J. W. Danforth Co., Buffalo, N. Y., at $37,257.

**Exeter, Mass.**—Trus. of Philips Exeter Academy propose rebuilding administration building recently destroyed by fire. Ralph A. Cram, Boston, Archt.; S. Sidney Smith, Pres.

**Fall River, Mass.**—Plans of E. I. Marvell, 57 N. Main St., selected for new 12-room school in Maplewood Dist.

**Wrentham, Mass.**—Bids desired until July 23 by Trus. Wrentham State School for erecting hospital school in Wrentham; also separate bids for plumbing, heating and electric wiring. Kendall, Taylor & Co., Archts., 93 Federal St., Boston.

**Bridgeport, Conn.**—Bids desired until 5 p. m., July 20, by Bd. Educ. for erecting brick addition to Columbus School, N. Washington Ave. C. T. Beardsley, Archt., Bridgeport Savings Bank Bldg.

**New Haven, Conn.**—Following are 3 lowest bids opened by Bd. Educ. July 2 for erecting addition to New Haven High School: David H. Clark Co., 166 Brewery St., $162,331; Chas. McCaul Co., Philadelphia, Pa., $169,494, and Chas. W. Murdock, New Haven, $164,358.

**★New London, Conn.**—Contract for erecting 2 dormitories and a science hall at Connecticut College for Women awarded to Norcross Bros., New York, N. Y. Elizabeth C. Wright, Secy. Bd. Trus.

**Brooklyn, N. Y.**—Bids desired until July 22 by Boro. Pres. for furnishing material and repairng steam boilers and piping in Kings County Courthouse and Hall of Records. Security $2,500.

**★Buffalo, N. Y.**—Contract for erecting the Jubilee Library on Parish Tract in Black Rock awarded as follows: Carpenter work, Adolph F. Bohrnique; structural steel and ornamental iron work, C. F. Ernst Sons; fireproofing and concrete floors, Buffalo Expanded Metal Co.; heating, O'Connor & Huesner; plumbing, Federal Htg. Co.; masonry, Chas. P. Barnwell.

**Clayville, N. Y.**—Citizens voted $24,000 bonds for erecting high school.

**Farmingdale, N. Y.**—Bids desired until Aug. 8 by Dr. Franklin W. Hooper, Secy. Bd. Trus., 30 Lafayette Ave., Brooklyn, for construction of power house, including boiler plant, piping and conduits, plumbing and electric work; construction heating, plumbing and electric work for 5 cottages and dormitory, sewerage and sewage disposal plant, and water supply works for N. Y. State School of Agriculture on Long Island, near Farmingdale, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

**Lockport, N. Y.**—Plans prepared by Wm. N. Smith for alterations to High School; cost, $100,000.

**Mechanicville, N. Y.**—Citizens voted $22,000 for erecting municipal building and jail.

**New York, N. Y.**—Bids desired until July 20 by Supervising Archt., Washington, D. C., for general alterations and betterments for accommodation of U. S. Court House and Post Office building, New York City; also separate bids for installing ventilating fans, motors, ducts, etc.

Following are bids opened July 13 by Supt. Bldgs., Bd. Educ., for general construction of additions to and alterations in Public School 12, Boro. Bronx: Wm. H. Egan, $99,381; The Connors Bros. Co., $110,578; H. C. Stowe Constr. Co., $97,960; Frymier & Hanna, 125 W. 45th St., $91,875; National Concrete & Constr. Co., $104,800.

Also for plumbing and drainage for same as follows: Jos. F. Egan, $10,220; Wells & Newton Co. of New York, $9,562; Jas. Harley Plumbing Co., $9,671; John J. Kenny Co., $10,136; Renalt Contr. Corp., $11,590; Christ. Nally, 710 Columbus ave., $9,435.

Bids desired until July 27 by Superintendent School Bldgs., New York City, for the following:

Bronx Boro.—Installing ventilating and heating apparatus; also temperature regulation in School 56. Security, $8,000 and $600, respectively.

Queens Boro.—Installing ventilating and heating apparatus; also temperature regulation in School 96. Security, $10,000 and $1,200, respectively.

**Rochester, N. Y.**—Contract about to be let by Bd. Educ. for erection School No. 26 on Bernard St.

**Utica, N. Y.**—Bids reported desired until July 22 by Homeopathic Hospital for erecting 2 buildings, 4-story, 46 x 130 ft., and 3-story, 45 x 70 ft. Probable cost, $75,000. Agne, Rushmer & Jennison, Archts., Arcade Bldg.

**Mendham, N. J.**—Bids desired until July 24 by Board Education for erecting school. Probable cost, $20,000. J. J. Vreeland, Archt., Dover.

**Orange, N. J.**—Lowest bid received July 10 by Superv. Archt., Washington, D. C., for constructing U. S. Post Office here was from J. D. Bendetto, New York, at $72,349.

**Trenton, N. J.**—Bids desired until Aug. 4 by Comptroller, Trenton, for replacing 2 boilers in State House, advertised in Engineering Record.

**West Hoboken, N. J.**—Bids desired until July 28 by Bd. Educ., Town of West Hoboken, for erecting school adjoining site of present School No. 1; also ventilating and heating.

**Bedford, Pa.**—Bids desired until Aug. 24 by Supervising Architect, Washington, D. C., for construction complete (including mechanical equipment, interior lighting fixtures and approaches), U. S. Post Office, Bedford.

**Carlisle, Pa.**—School Bd. sold $92,000 school bonds.

**Ebensburg, Pa.**—Contract is about to be let for addition to Cambria County Court House; cost, $92,000. Jas. Gordon, Archt.

**Franklin, Pa.**—Bids reported desired until July 25 by Bd. Dir. School Dist. of Rockland Township, (J. C. Lusher, Secy.,) for erecting an 8-room school; also separate bids for plumbing and heating.

**Hickory, Pa.**—Mt. Pleasant Township School Bd. contemplates erecting 2-story brick school, cost about $45,000.

**★Milton, Pa.**—Contract for erecting Central Grammar School on Bound Ave. (bids opened July 7) awarded to Fink & Seidel, Reading, at $51,550. Other bidders: G. B. Stryker Sons, Auburn, N. Y., $54,321; J. W. Emery, Philadelphia, $55,528, and W. D. Stembach, Lewistown, $52,400. Chas. W. Mack, Secy. Bd. Educ.

**★Pittsburgh, Pa.**—Contract for erecting brick and stone addition to Columbia Hospital at Penn Ave. and West St., Wilkinsburg, awarded to Cuthbert Bros. Co., Bessemer Bldg., at $30,000.

**★Sharon, Pa.**—Contract for erecting 6-room brick school awarded by Bd. Educ. to A. Wishart & Sons Co., Sharon, at about $22,000.

**Washington, D. C.**—Bids desired until July 28 by Supervising Archt. for constructing proposed quarters for Stamp Division, Internal Revenue, Commissioner's office, Auditors' building (old Bureau of Engraving and Printing), Washington.

**★Washington, D. C.**—W. H. McCrary, of Washington, has contract to erect addition to Ward B, Walter Reed General Hospital, Takoma, D. C., at the following prices: Construction, $22,435; plumbing, $1,554.

Bids desired until July 22 by Commissioners D. C., for erecting shelters, yard and weightmaster's offices, lunch rooms, toilets, etc., on 10th and 12th St., B and Little B Sts.

**Alexandria, Va.**—Plans for erection 2-story high school at Cameron and West Sts. being prepared by E. C. Dunn, City Engr.; cost about $40,000.

**Bristol, Va.**—Bids reported desired until Aug. 3 by Clerk School Bd. for installing ventilating, heating, plumbing, electric wiring and conduit work in Grammar and High School, Euclid Ave. C. B. Kearfoot, Archt., Bristol, Tenn.

**Wytheville, Va.**—Bids desired until Aug. 4 by Supervising Architect, Washington, D. C., for construction, complete (including mechanical equipment, interior lighting fixtures and approaches), of U. S. Post Office, Wytheville.

**Keyser, W. Va.**—Bids desired until Aug. 1 by State Bd. Control, Charleston, for furnishing material and erecting, complete, at Preparatory Branch, West Virginia University, Keyser, a 2-story brick and reinforced concrete dormitory building.

**Morgantown, W. Va.**—Plans of C. W. Bates, Morgantown have been accepted for high school to be erected; cost, $150,000.

**★Greenville, N. C.**—Contract for erecting county home building (bids opened July 8) awarded to W. P. Rose, Goldsboro, at $31,000. Benton & Moore, Archts., Wilson.

**★Latta, S. C.**—Contract for erecting 2-story high school awarded to J. W. Stout, Sanford, N. C.

**Ridgeland, S. C.**—Bids desired until July 22 by County Comrs. for erecting courthouse and jail buildings. Wm. A. Edwards, Archt., Candler Bldg., Atlanta, Ga.

**Tampa, Fla.**—Plans of Fred J. James, Tampa, have been accepted for Carnegie Library to be erected here; cost, $50,000.

**Huntsville, Ala.**—High School to cost about $30,000 is contemplated.

**Maryville, Tenn.**—County Court contemplates erecting high school here; cost, $40,000.

**Georgetown, Ky.**—Bids desired until Aug. 12 by Supervising Archt., Washington, D. C., for construction, complete (including mechanical equipment, interior lighting fixtures and approaches), of U. S. Post Office, Georgetown.

**Lexington, Ky.**—Erection of 2 dormitories and manual training Building for Chandler Normal School is contemplated; cost, $100,000. F. J. Werking, Principal.

**Canton, O.**—Four lowest bids received July 3 for erecting school were: Dawson Constr. Co., Pittsburgh, Pa., $49,215; Anderson & Filey, New Castle, Pa., $49,771; Geo. H. White, Canton, $52,026; Keller & Huff, Canton, $54,752.

**Clarksburg, O.**—Bids desired until July 25 by Bd. Educ., Deerfield Township School Dist., Clarksburg, for erecting High School. H. C. Hicks, Archt., Washington C. H.

**Cleveland, O.**—Bids reported desired until July 21 by Commissioner Purchases and Supplies for heating bath house on Woodland Ave.

**Columbus, O.**—Franklin Park Comn. approved plans of J. A. Jones, Despatch Annex, for recreation center and shelter house to be erected in the Park; cost $27,500.

Local press reports state bids will be opened Aug. 1 by Bd. Educ. for $215,000 bonds issued for erection of Studer Avenue School

**★Bowling Green, O.**—Contract for erecting agricultural and science building at Bowling Green State Normal School awarded to Steinle Constr. Co., Fremont, at $79,197. D. C. Brown, Secy. Bd. Trus.

**Dayton, O.**—Bids desired until July 30 by County Comrs. for furnishing material and erecting public comfort station on Montgomery County Fair Grounds. G. A. Niehus, Archt., Callahan Blk., Dayton.

Bids reported desired until July 30 by W. L. Jaekle, Archts., United Brethren Bldg., for erecting 2-story and basement, 80 x 98 ft. school for St. Anthony's R. C. Church. Probable cost, $40,000.

**Hamilton, O.**—Three lowest bids opened by School Bd. July 1 for erecting high school are as follows: General contract, Cullen & Vaughn, Hamilton, $180,000; Dawson Constr. Co., Pittsburgh, Pa., $180,490; Roche-Bruner Bldg. Co., Cincinnati, $213,890; plumbing, sewer and gas, Fitzpatrick & Hoephner, Columbus, $9,293; Henry Neimes, Cincinnati, $8,125; and John L. Walker Co., $8,959; electrical work, E. W. Malone, Cleveland, $2,994; Chatfield Electric Co., Indianapolis, Ind., $3,382; John L. Walker Co., $3,583; heating and ventilating, Thos. J. Nichol & Co., Cincinnati, $30,545; New York Floor Co., Bucyrus, $29,300; Henry Niemes, Cincinnati, $32,100; boilers, E. Keeler, Cincinnati, $6,620; lathe and plaster, A. K. Musselman, Dayton, $14,948.

★Contract for above High School awarded to Roche-Bruner Co., Cincinnati.

**Sandusky, O.**—Bids desired until July 27 by Director Pub. Safety, for erecting No. 1 Fire Station, exclusive of plumbing and heating. H. C. Millott, Archt., Bliss Bldg.

**Youngstown, O.**—Bids desired until Aug. 4 by Clerk Bd. Educ. for furnishing material and erecting an 8-room fireproof school on Japan St. C. F. Owsley, Archt., Mahoning Natl. Bank Bldg.. Also a fireproof school on Robinwood St. E. R. Thompson, Archt., N. E. corner Central Sq.

**Paoli, Ind.**—Bids desired until Aug. 20 by County Comrs. for reconstructing County Asylum building to be used as County Poor Asylum; also plumbing, heating and water piping.

**Detroit, Mich.**—Bids desired until July 21 by County Auditor at office Wm. B. Stratton, Archt., Union Trust Bldg., for furnishing material and erecting a Detention Home in this city.

Bids desired until July 25 by Secretary Bd. Health for additions and alterations to Pavilions 1 and 2, Herman Kiefer Hospital, Hamilton Boule. Louis Kamper, Archt., Fine Arts Bldg.

Library Comn. approved plans of Cass Gilbert, 25th St. and Bway., New York City, for library to be erected at Woodward and Kirby Aves.; cost, $1,000,000.

**Grand Rapids, Mich.**—Erection of armory and convention hall is contemplated by City Council; cost about $90,000.

**Jacksonville, Ill.**—Bids desired until July 21 by Clerk Bd. Educ. for furnishing f. o. b. cars, Jacksonville, 72-in., 18-ft. boiler, tubular type, capable of carrying 100 lb. pressure.

**Ladysmith, Wis.**—Bids desired until Aug. 3 by School Bd. for erecting brick and stone high school. Parkinson & Dockendorf, Archts., La Crosse.

**★New London, Wis.**—Contract for erecting building for Most Precious Blood School awarded as follows: General contract to W. E. Powley, Oshkosh, at $19,748; heating and plumbing, to Geo. Kispert, Kaukauna, at $4,600.

**Milwaukee, Wis.**—Bids desired until Aug. 14 by Supervising Archt., Washington, D. C., for construction, complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring, interior lighting fixtures and approaches) of U. S. Appraiser's stores, Milwaukee.

**Stevens Point, Wis.**—Bids desired until Aug. 3 by State Bd. Regents of Normal Schools, Madison, for erecting 2-story, basement and attic addition State Normal School at Stevens Point; also plumbing, sewerage, ventilating and heating and electrical work. Van Ryn & DeGelleke, Archts., Caswell Blk., Milwaukee.

**Tomah, Wis.**—School Bd. voted to erect high school; cost, $40,000.

**Baxter, Ia.**—Bids desired until July 20 (extension of date from July 6) by Secretary Independent School Dist. for erecting 2-story school.

**Charlton, Ia.**—Bids reported desired until July 23 by Secretary Independent School Dist. for erecting superstructure of Manual Training building.

**Council Bluffs, Ia.**—Bids desired until Aug. 4 by Bd. Dirs. Independent School Dist., for alterations and additions to steam plant, 2d Ave. School, 2d Ave. and 23d St. F. E. Cox, Archt., Baldwin Blk.

**★Muscatine, Ia.**—Contract for erecting municipal building (bids opened July 8) awarded to Jas. H. Selden, Muscatine, at $69,777. Other bidders: Geo. W. Stiles Co., Chicago, $71,789; McLennan Constr. Co., Chicago, $73,141; Theo. Stark Co., Cedar Rapids, Ia., $75,785, and McCarthy Improv. Co., Davenport, Ia., $78,900.

**Waterloo, Ia.**—Bids desired until 4 p. m. July 20 by Bd. Educ., Independent School Dist. of East Waterloo, Waterloo, for erecting school in Rose Hill Addition, Waterloo; also installing plumbing, heating and electric wiring. M. B. Cleveland, Archt., Waterloo.

**★Barnesville, Minn.**—Contract for erecting brick school awarded by Bd. Educ. to Mason Lumber Co., Palisade, at $39,000. E. T. Broomfield, Duluth, Archt.

**★Minneapolis, Minn.** — Contract for erecting gymnasium at Univ. of Minneapolis, St. Anthony Park (bids opened June 22), awarded to Cameron & Co., for general construction, at $62,748; Hanker & Eha, heating and ventilation, $4,999; Healy Plumb. & Htg. Co., plumbing, $5,888. Bidders all of St. Paul.

**Owatonna, Minn.**—Bids desired until July 25 by State Bd. Armory Supervisors at office of Chas. H. Stratton, Archt., Owatonna, for erecting an armory.

**★Geneva, Neb.**—Contracts for erecting building at the Girls' Industrial School (bids opened July 6) as follows: General contract, to W. J. Assenmacher, Lincoln, $37,560; heating and plumbing, F. B. Bentley, Geneva, $4,195. Leo Matthews, Secy. Bd. Control, State Hospital, Lincoln.

**Grand Island, Neb.**—Bids reported desired until July 21 by Secretary Bd. Educ. for installing ventilating system in Howard School. Oscar R. Kirsche, Archt., Grand Rapids.

**★New England, N. D.**—Contract for erecting brick school awarded to Bakke & Malby, Dickinson, at $30,188.

**Evanston, Wyo.**—Bids reported desired until July 27 by School Bd. for erecting 3-story, 60 x 82 ft. High School. Probable cost, $30,000. Wm. Redding & Son, Archts., Opera House Bldg., Denver, Col.

**Livingston, Mont.**—Following are four lowest bids received for erecting Central School: Levique, Flesheim & Beverly, $49,143; R. B. Bradford, $51,994; Gagnon & Co., $47,486; Shackelton & O'Connell, $52,550. E. M. Sybot, Clk. Bd. Educ.

**Columbia, Mo.**—Bids desired until July 24 by Secretary University for erecting hog serum laboratory for hog serum plant on farm owned by University, a few miles north of Columbia.

**Normandy, Mo.**—Bids reported desired until July 21 by Barnett, Haynes & Barnett. Archts., Century Bldg., St. Louis, for erecting seminary, 4-story, 225x100 ft.

**St. Louis, Mo.**—Union Electric Light & Power Co. reported to be taking steps to erect 2 buildings on St. Charles St., probably 12 stories high. A. C. Einstein, Vice-pres. and Gen. Mgr.

**Jonesboro, Ark.**—City Hall is to be erected here; cost, $75,000.

*★Items marked thus give the names of parties awarded contracts.*

**Dallas, Tex.**—J. E. Overbeck, Dallas, has been selected to prepare plans for addition to St. Paul's Sanatarium at Ryan and Hall Sts.

**Walla Walla, Wash.**—About $100,000 is to be spent on erecting building for Whitman College.

**Amity, Ore.**—School bonds amounting to $40,000 sold.

**Eugene, Ore.**—Plans completed for an administration building to be erected at the Univ. of Oregon, cost $100,000.

**Fresno, Cal.**—Bids reported desired until July 24 by Bd. Educ. for erecting 2-story, 7-room school.

**Glendale, Cal.**—C. S. Westlake, Glendale, has been directed to prepare plans for erecting school in Glendale; cost $40,000.

**Los Angeles, Cal.**—Bids desired until July 23 by Bd. Educ., for erecting a brick addition to Sentous St. Intermediate School.

**Pasadena, Cal.**—Bids desired until July 7 by Bd. Educ., for erecting 2 schools, including heating, plumbing, etc.

**Sacramento, Cal.**—Bids opened July 7 by Clerk Co. Bd. Superv. for improving north half of courthouse block, H St., rejected; new bids desired Aug. 5. R. A. Herold, Archt., Forum Bldg.

**San Fernando, Cal.**—Erection of school in Pacoima section is contemplated; cost, $40,000.

**Santa Cruz, Cal.**—Two lowest bids opened by School Board July 2 for erecting high school were Peterson & Wilson, San Francisco, $43,800; H. A. Kyle, $45,300.

**Ventura, Cal.**—Plans being prepared by State Archt., Geo. B. McDougal, Sacramento, for hospital group here; cost $45,000.

**Whittier, Cal.**—Citizens voted $50,000 bonds for erecting school.

**Idaho Falls, Idaho**—Lowest bid received by Supervising Archt., Washington, July 7 for erecting the U. S. Post Office here was from R. E. Campbell, Salt Lake City, Utah, at $84,452 for limestone or sandstone.

**Brighton, Ont.**—Bids desired until Aug. 4 by Town Clerk, for $48,000 school bonds.

**Hanover, Ont.**—Bids desired until Aug. 4 by Director of Contracts, Dept. Militia and Defence, Ottawa, for constructing drill hall at Hanover.

**Hespeler, Ont.**—Bids desired until Aug. 4 by Town Clerk, for erecting Municipal Building.

**Niagara Falls, Ont.**—Bids desired until July 25 by Bond & Smith, Archts., Herald Bldg., Toronto, for erecting new building for Morrison St. Methodist Church, Niagara Falls. M. Henderson, Secy., Bldg. Com., 56 Morrison St.

**Toronto, Ont.**—Bids desired until July 23 by Secretary Dept. Pub. Wks., Toronto, for interior finishing of main building of Government House, Rosedale, Toronto.

**Courtenay, B. C.**—Bids reported desired until Aug. 6 by Dept. Pub. Wks., Ottawa, Ont., for erecting Post Office at Courtenay.

**Kamloops, B. C.**—Bids reported desired until July 24 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting drill hall on Columbia St., Kamloops. Wm. Henderson, Archt., Victoria, B. C.

**Merritt, B. C.**—Bids desired until July 23 by Secy. Dept. Pub. Wks., Ottawa, Ont., for erecting post office building here.

## PRIVATE BUILDINGS.

*Items Arranged Geographically*

★**Holyoke, Mass.**—Contract for erecting building for Knights of Columbus awarded to Louis Carean & Sons, Holyoke, at $74,977.

★**Springfield, Mass.**—Contract awarded by Reed Realty Trust Co. for erecting 3-story brick and concrete apartment to Fred. T. Ley, of Springfield.

**Worcester, Mass.**—John P. Casey, 94 Lincoln St., secured site on which to erect 7-story brick apartment house.

**Hartford, Conn.**—Merry & Boomer, Hotel Taft, New Haven, reported to be planning erection of hotel in Hartford; cost $2,000,000. Warren & Wetmore, Archts., New York, N. Y.

★**Binghamton, N. Y.**—Contract for erecting addition to Home for Aged Women on Fairview Ave. awarded to Jones, Beers Co., Binghamton, at about $30,000.

★**New York, N. Y.**—Contract for erecting 20-story store and office building at 6 to 10 W. 42d St., for W. 40th St. Co., awarded to Geo. A. Fuller Constr. Co., 111 Bway; cost about $500,000. Starrett & Van Vleck, Archts., Everett Bldg.

★**Olean, N. Y.**—Contract for erecting 7-story brick and granite bank building at W. Union and W. State Sts. awarded to Geo. A. Fuller Co., 111 Bway., New York City.

**Syracuse, N. Y.**—Gaggin & Gaggin, Syracuse, are architects for Temple which Central Lodge, F. & A. M., No. 305, intends erecting at 339 S. Salina St.; cost $100,000.

★**Bayonne, N. J.**—Contract for erecting Y. M. C. A. on W. 33d St. awarded as follows: Heating, plumbing and lighting to W. G. Cornell, 4th Ave. and 17th St., New York, N. Y.; general contract to Jacob A. Zimmerman & Son, 18 E. 41st St., New York, N. Y.

**New Brighton, Pa.**—Site at 3d Ave. and 8th St. has been purchased for erection Y. M. C. A. Bldg.; cost, $40,000.

★**Oil City, Pa.**—Contract for reinforced concrete flooring for building for Karnahan Storage Co. awarded to Toupet, Bell & Conley, at $13,000.

**Pittsburgh, Pa.**—Plans completed by Janssen & Abbott, 9th St. and Liberty Ave., for 20-story hotel to be erected at Oliver and 6th Aves. for Wm. Penn Hotel Co.; cost about $5,000,000.

Plans completed for building 6 stories to 18-story Benedum & Trees Bldg. on 4th St.

**Scranton, Pa.**—Plans being prepared by E. H. Davis, Connell Bldg., for 12-story Union Bank Building, to be erected at Washington and Lackawanna Ave.

★**Salisbury, Md.**—Contract for erecting Y. M. C. A. building awarded to Slemons & Booth, Salisbury.

**Macon, Ga.**—Plans and specifications being completed for terminal station to be erected here; cost about $750,000.

**Eufaula, Ala.**—Congregation First Methodist Episcopal Church contemplates erecting edifice; cost, $30,000.

**Monroe, La.**—Bids desired until Aug. 6 by Young Men's Hebrew Assoc. (Saml. Kaplan, Chmn. Bldg. Com.), for erecting temple for Congregation B'Nai Israel. Stevens & Nelson Co., Archts., Liverpool & London & Globe Bldg., New Orleans.

★**Memphis, Tenn.**—Contract for erecting motion picture theater on Main St. for J. B. Snowden awarded to Jas. Alexander Constr. Co., Memphis Trust Co. Bldg., at about $63,000.

**Columbus, O.**—Bids reported desired until July 25 by Elks' Lodge for erecting lodge building. Geo. R. Bassett, Archt., Central Natl. Bank Bldg.

**Dayton, O.**—Plans have been adopted for 11-story Miami Hotel to be erected at 2d and Ludlow Sts. Fred H. Rike and Irving G. Kumler said to be interested.

★**Toledo, O.**—Contract for erecting edifice at Detroit and Fernwood Ave. for Congregation Zion Evangelical Church awarded to John Pioch & Son, at about $30,000.

★**Anderson, Ind.**—Contract for erecting 4-story 50 x 212 ft. addition to St. John's Hospital awarded to Eshelman & Son, Anderson, at about $100,000.

**Peoria, Ill.**—Plans approved for the building to be erected by the Illinois Traction System; cost $400,000.

★**Mason City, Ia.**—Contract for erecting passenger station here for Chicago, Great Western and Rock Island R. R., awarded to B. L. Stretton, Mason City, at $35,000.

**Sioux City, Ia.**—Erection of 5-story concrete building at 7th and Pierce Sts. is contemplated by Ben Davidson; cost about $400,000.

**Big Lake, Minn.**—Bids desired until July 22 by Sherburne County State Bank for erecting brick and tile bank building. Chas. S. Sedgwick, Archt., Lumber Exchange, Minneapolis.

★**Crookston, Minn.**—Contract awarded June 30 to Hussey Constr. Co., Crookston, for erecting First Presbyterian Church, at about $26,000. Rev. R. C. Bailey, Chmn. Bldg. Com.

★**Springfield, Minn.**—Contract for erecting edifice for St. Raphael's Congregation awarded to Otto Neitge, Mankato, at $34,236.

**Coats, Kan.**—Bids reported desired until July 20 for erecting 2-story and basement bank and lodge building for A. F. & A. M. and Coats State Bank. S. S. Voight, Archt., Barnes Bldg., Wichita.

★**Sioux City, S. D.**—Contract for erecting 3-story brick and concrete building at 308 W. 9th St. for John Bleeg awarded to Sioux Falls Constr. Co.; cost about $50,000.

**Kansas City, Mo.**—Y. M. C. A. building for colored men is to be erected in Kansas City; cost $100,000. Julius Rosenwald, Chicago, Ill., is said to be interested.

**Beaumont, Tex.**—Preliminary plans prepared by Kansas City Southern R. R. Co. (C. E. Johnston, Ch. Engr., Kansas City, Mo.) for depot in Beaumont; cost $30,000.

★**Houston, Tex.**—Contract for erecting 2-story 100 x 100-ft. building at Main St. and Rusk Ave. for Finnigan Estate awarded to Frank Heidelburg at about $75,000.

**North Yakima, Wash.**—John Cort, owner of Yakima Theater, announces that he will erect on theater site a business building.

**Seattle, Wash.**—Plans completed by J. L. McCauley, New York Blk., for 10-story, 105 x 120 ft., reinforced-concrete hotel, to be erected on Maynard and Jackson Sts., for Ranier Heat & Power Co.; cost $200,000.

Plans prepared by J. Merrill Brown, Northern Bank Bldg., for 4-story reinforced-concrete natatorium and restaurant at West Ave. and Virginia St. for Edwin Barach, 1612 Summit Ave.; cost $125,000.

**Portland, Ore.**—Directors of Consolidated First Natl. and Security Banks considering erection of bank and office building; cost $1,000,000.

Plans being prepared by Whitehouse & Foulihoux for 10-room brick residence to be erected by Chester G. Murphy on Kings Court; cost about $25,000.

**Los Angeles, Cal.**—Plans being prepared by Leonard L. Jones for 7-story hotel to be erected at 5th St. and Ruth Ave. for C. W. Howard.

Harrison Albright, Laughlin Bldg., selected to prepare plans for apartment hotel to be erected at Wilshire Boule. and Carondelet St.

**Sacramento, Cal.**—Aerie Eagles contemplate erecting building; cost, $45,000.

**San José, Cal.**—Plans being prepared by L. T. Lenzen, San José, for 5-story reinforced-concrete clubhouse to be erected on N. First St. for Native Sons of Golden West; cost $100,000.

**Port Arthur, Ont.**—Plans being prepared for a bank building to be erected at Cumberland and Park Sts. for Bank of Montreal; cost $60,000.

**Sarnia, Ont.**—Bids desired until July 22 by Geo. Leach, Secy. Bd. Trus., 176 Christina St., for enlargement and roofing of church building; also erecting Sunday School at John and Devine Sts. R. W. Fawcett, Archt., Sarnia.

★**Toronto, Ont.**—Contract for erecting Union Station for Toronto Terminal Ry. Co. awarded to Peter Lyle Co., Ltd., Montreal; cost $3,000,000. John M. Lyle, Archt.

**Edmonton, Alta.**—Bids desired until July 30 for erecting Roman Catholic Cathedral. Roland W. Lines, Archt., Edmonton.

**Vancouver, B. C.**—Plans being prepared by Parr, McKenzie & Day, Vancouver Bldg., for 10-story hotel for Klaw & Erlanger interests; cost about $1,000,000.

## NEW INDUSTRIAL PLANTS.

*See also "Private Buildings."*

*Items Arranged Geographically*

**Malden, Mass.**—York Knitting Co. having plans prepared for a 4-story addition to plant, 50 x 100 ft.

**Southbridge, Mass.**—Central Mill Co. will erect a 3-story brick storehouse.

★**Buffalo, N. Y.**—Contract for erecting plant in Buffalo for Niagara Coke Cor. awarded to Otto Coking Co., New York; cost, about $1,000,000.

A woodworking plant for manufacture of hardwood trim, floors, doors, sash, etc., is to be erected by Hurd Bros., on Bailey Ave., Dingen St. and Lackawanna R. R.

★Contracts awarded by King Sewing Machine Co. for foundry additions, 70 x 117 ft., 20 x 250 ft. and 20 x 40 ft., 1-story, at plant Rano St. and Lackawanna R. R., as follows: Structural steel to Riverside Bridge Co., Martins Ferry, O.; masonry, Chas. Berricks Sons Co., Buffalo; carpentry, E. M. Hager & Sons Co., Buffalo.

★General contract awarded to Niederpreum Bldg. Co., for paper box factory, 40 x 80 ft., 2-story, on East Utica St., for Springfels Mfg. Co. Archts., Colson & Hudson, Dun Bldg.

Bids desired by Archt. J. C. Schultz, 1370 Main St., for erecting 2-story foundry building, 38 x 95 ft., and 1-story machine shop, 117 x 145 ft., at Elm and Clinton Sts., for Taber Pump Co. Ellicott & Swan Sts.; estimated cost, $30,000.

**Buffalo, N. Y.**—Electric Elevator Co. intends erecting an addition to grain elevator and storage plant on Buffalo River and Buffalo Creek Terminal R.R.

Plans being prepared by J. C. Schultz, 1370 Main St., for factory to be erected on Elm and Clinton Sts. for Taher Pump Co., Ellicott and Swan Sts.; cost $30,000.

**Edwards, N. Y.**—Plans completed for rebuilding zinc concentrating plant of Northern Ore Co. recently damaged by fire.

**Ellicottsville, N. Y.**—L. F. Dresser, Pres., Fleckenger Bros. Co., Bradford, Pa., having plans prepared for foundry and machine shop, each 80 x 120 ft., 1-story, to be erected here.

★**New York, N. Y.**—Contract for erecting 10-story and basement factory, of reinforced concrete throughout, on Front St., awarded to Turner Constr. Co., 11 Bway. Probable cost $60,000. Ludlow & Peabody, Archts., 101 Park Ave.

**Middletown, Pa.**—About $500,000 is to be spent on erecting buildings and improving plant of Middletown Car Co.. Arthur King Pres.

★**Bessemer, Ala.**—Contract awarded by American Tar Products Co. to H. Koppers Co. to erect plant to manufacture creosote, hard and soft pitch, etc.

**East St. Louis, Ill.**—Contracts will soon be let for erecting Advance Elevator buildings to replace those recently destroyed at Front and Winter Sts.; cost $350,000. Albers Commission Co., Owners

**St. Paul, Minn.**—Bids reported being received by Northern Pacific Ry. Co., W. L. Darling, Ch. Engr., for roundhouse and locomotive repair plant to be erected on Mississippi St.; cost about $500,000.

**Seattle, Wash.**—Bids desired until Aug. 20 by Port Seattle, Central Bldg., for constructing the superstructure and equipment of a 500,000-bu. grain elevator at East Waterway Terminal, advertised in Engineering Record.

**Berlin, Ont.**—A factory is to be built here by the Deering Trunk Co.

**Brantford, Ont.**—The Ontario Concrete Post Co., Ltd. (J. W. Clark, Cainsville, Pres.) will erect factory for manufacture of fence posts, electric light and trolley poles.

**London, Ont.**—Plans being prepared for plant for Canadian Crucible Steel Co.

**Sandwich, Ont.**—Additions are to be made to plant of Canadian Alkali Co.; cost $500,000.

**Windsor, Ont.**—Bids reported desired until July 21 by J. C. Pennington, Archt., La Belle Bldg., for erecting 4-story, 100 x 135 ft., brick and steel factory on Pitt St. E., for J. T. Wing & Co., 61 Sandwich St. E. Probable cost $36,000.

**Fort George, B. C.**—Plans completed by Wilson & Wilson, 532 Granville St., Vancouver, B. C., for $75,000 brewery for Peace River Brewing & Malting Co.

## MISCELLANEOUS.

*See also "Hydraulic Construction and River Improvements."*

*Items Arranged Geographically*

**Elevators—Boston, Mass.**—Bids desired until July 21 by State House Bldg. Comn., Boston, for installing elevators in addition to State House.

**Exhaust-Steam Lines—Brooklyn, N. Y.**—Bids desired until July 24 by Dept. Pub. Charities, New York City, for furnishing material and installing new steam lines for carrying exhaust steam from power house of Kings County Hospital, Boro. Brooklyn. Security, $2,000.

**Park Improvements—Trenton, N. J.**—Bids desired until July 22 by City Comn. for improving portion of Mahlon Stacy Park. Frank Thompson, City Clk.

**Boilers—Washington, D. C.**—Bids desired until Aug. 6 by Lieut.-Col. Jos. E. Huhn, Corps Engrs., U. S. A., for furnishing 2 12-hp. return tubular boilers.

**Cable—Washington, D. C.**—Bids desired until July 22 by Capt. Chas. S. Wallace, Signal Corps, U. S. A., for furnishing 5000 ft. cable.

★**Sprinkler System—Washington, D. C.**—Contract for sprinkler system for the Patent Office awarded to W. G. Cornell Co., Washington, D. C., at $18,724.

**U. S. Government Supplies—Washington, D. C.**—Bids desired until Aug. 11 at Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for furnishing at Navy Yards and Naval Stations supplies as follows: Mare Island, Cal.—Sch. 7047, 20,000 hard red brick; Sch. 7048, 70 M. ft. unseasoned No. 1 merchantable Douglas fir; Sch. 7052, 19,000 lb IPS, 12-ft. lengths, ¾, 1 and 1½-in. seamless drawn brass pipe; 1800 ft. standard weight 3-in. galv. wrought pipe; Sch. 7051, 6400 lb. 12-ft. lengths and 1000 lb. 2¾-in., 12-ft. lengths round rod brass; miscellaneous hard and soft spring sheet brass; miscellaneous soft and hard sheet copper; Sch. 7050, 2000 lb. medium round 1½-in. diam., 12-ft. lengths medium rolled bronze; 5100 lb. hard and hot rolled, 14 x 48-in., 16 and 26 oz. sheathing copper; 5000 lb., 8-in. square, 8 or 10-ft. lengths, Class A, billet steel; 5000 lb. 8-in. round, 8 or 10-ft. lengths Class B billet steel; 78,700 b. medium steel, lengths not over 20 ft.; 16,500 lb. galvanized sheet steel, 30 x 48 in., 36 x 96-in., and 36 x 120-in., etc. Applications for proposals should designate the schedules desired by number.

**Steel Barge—New Orleans, La.**—Bids desired until Aug. 12 by Maj. C. O. Sherrill, Corps Engrs., U. S. A., New Orleans, for constructing and delivering one steel barge, advertised in Engineering Record.

★**Culverts — Henderson, Ky.**—Contract awarded to American Culvert Co., Louisville, for furnishing for 1 year all culvert pipe for the county, at $2,345.

**Dump Scows—Cincinnati, O.**—Following are three lowest bids received July 7 by Lieut. Col. H. Jervey, Corps. Engrs., U. S. A., Cincinnati, for constructing and delivering 10 steel dump scows (Ohio River Improvement), (a) 6 dump scows delivered at Cincinnati, (b) 4 dump scows delivered at Marietta, (c) or 10 dump scows delivered at bidder's shipyard, (d) weight of one scow (lbs.): American Bridge Co. of New York, Cincinnati, O., (a) $8,000, (b) $7,900, (c) $7,775, (d) 179,630; Dubuque Boat & Boiler Wks., Dubuque, Ia., (a) and (b) $8,944, (c) $8,744, (d) 176,577; Chas. Hegewald Co., New Albany, Ind., (a) $10,349, (b) $10,399, (c) $10,299, (d) 183,000.

★*Items marked thus give the names of parties awarded contracts.*

**Elevators—Dayton, O.**—Lowest bid received by Supervising Archt., Treas. Dept., Washington, D. C., for installation, complete, 2 electric passenger elevators, 3 hydraulic lifts and a pumping plant in U. S. post office and court house at Dayton was Faunt Le Roy Elevator Co., Baltimore, Md., $12,432.

★**Retaining Wall—Youngstown, O.**—Contract for constructing a retaining wall for the park drive reported awarded to Sampbell Bros. at $66,394.

★**Tunnel—Whitefish, Mont.** — Contract awarded to Guthrie McDougal Co., Spokane, Wash., for constructing 900-ft. tunnel here for Great Northern Ry. Co.

**Park Improvement — Corpus Christi, Tex.**—Following are bids received July 7 by H. A. Stevens, City Engr., for concrete walls, balustrades, etc., for Bluff Park improvement (bidders of Corpus Christi unless otherwise stated): Davis Bros., Houston, $10,998; Sherman Concrete Co., $13,615; John L. Kind, $13,811, and Richland Concrete Co., $13,814.

★**Hydraulic Lift—Astoria, Ore.**—Contract for hydraulic freight lift, pumping plant, etc., in the U. S. custom house, Astoria, awarded to Otis Elevator Co., Washington, D. C., at $5,072.

**Coal Handling Equipment—Astoria, Ore.**—Bids desired Aug. 15 by Port of Astoria Comn. for coal handling equipment; estimated cost, $50,000. F. J. Walsh, Ch. Engr., Port Comn.

**Wharf—San Diego, Cal.**—Bids to have been opened July 22 at Bureau Yards and Docks, Navy Dept., Washington, D. C., for constructing timber and pile wharf at U. S. Naval Depot, San Diego, as per Spec. 2084, postponed until further notice.

**Traveling Crane—Phoenix, Ariz.**—Bids desired until July 20 by U. S. Reclamation Service, Los Angeles, Cal., for furnishing 40-ton electric traveling crane for Salt River Project, Ariz.

**Cable-Toronto, Ont.**—Bids desired until July 30 by Chairman Toronto Electric Comrs., 226 Yonge St., for lead-covered cable.

**Cable—Toronto, Ont.**—Bids desired until July 30 by Chairman Toronto Electric Comn., for lead-covered cable.

**Steel Castings—Philippine Islands.**—Bids desired until July 30 by Col. S. W. Roessler, Corps Engrs., U. S. A., Army Bldg., New York, N. Y., for steel castings for Philippine Islands, advertised in Engineering Record.

★**Steel Forgings—Philippine Islands.**—Contract awarded to Bethlehem Steel Co., at $29,780, for furnishing steel forgings for the Philippine Islands.

# Proposals

**For Proposals Advertised see Pages 42, 43, 44 and 45.**

## WATERWORKS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Filter, Machinery, Etc., La Grange, Ga. Adv. June 27 to July 18. | June 27 |
| July 21. | System, Frankfort, O. | July 4 |
| July 21. | Enlarging Water Works, Clyde, O. | July 4 |
| July 21. | Waterworks, Arkansas City, Kan. | July 11 |
| July 21. | Waterworks Extension, Hanover, Ont. | July 18 |
| July 21. | Pipe, Berwyn, Ill. | July 18 |
| July 22. | Water Improvements, Hudson, N. Y. Adv. June 27 to July 4. | June 27 |
| July 22. | Pipe, Bingham Canyon, Utah Adv. Jun. 27, Jul. 4. | June 27 |
| July 22. | Pipe, Cincinnati, O. | July 18 |
| July 23. | Filtration, Cleveland, O. Adv. Jun. 27, Jul. 4. | June 27 |
| July 23. | Engines For Sale, Columbus, O. Adv. Jul. 4. | July 4 |
| July 23. | Supply Pipe, Gray's Lake. Adv. July 18. | July 18 |
| July 23. | Steel Tower and Tank, Gray's Lake, Ill. Adv. July 18. | July 18 |
| July 23. | Pump, Etc., Summit, Ill. | July 18 |
| July 23. | System, Duxbury, Mass. Adv. July 18. | July 18 |
| July 24. | Improv. System at Reformatory, Bedford Hills, N. Y. Adv. July 4, 11. | July 4 |
| July 24. | Pump, Glendors, Cal. | July 18 |
| July 27. | Pipe, Banff, Alta. | July 11 |
| July 27. | Mains, Orillia, Ont. | July 11 |
| July 27. | Improvement, Winner, N. D. | July 18 |
| July 27. | Reservoir, North Adams, Mass. Adv. July 18. | July 18 |
| July 27. | Steel Tank, Boston, Mass. Adv. July 18. | July 18 |
| July 27. | Pumping Engine, Port Huron, Mich. Adv. July 18. | July 18 |
| July 28. | Pipe, Belleville, N. J. | July 18 |
| July 29. | Reservoir, Etc., Dubuque, Ia. Adv. July 11. | July 11 |
| July 29. | Meters, Washington, D. C. | July 18 |
| July 30. | Reservoir, Pownal, Me. | July 4 |
| July 30. | Extension, Paragould, Ark. | July 18 |
| July 31. | Irrigation Dist, Plans, Modesto, Cal. | July 18 |
| Aug. 1. | Meters, Norfolk, Va. | July 18 |
| Aug. 3. | Pumps, Orillia, Ont. | July 11 |
| Aug. 3. | Pump, Etc., San Antonio, Tex. | July 11 |
| Aug. 3. | System, New Boston, Tex. Adv. July 18. | July 18 |
| Aug. 3. | Standpipe, Lockport, Ill. | July 18 |
| Aug. 5. | Mains, Enterprise, Kan. | July 18 |
| Aug. 6. | Water Works, Charleston, Mo. Adv. July 18. | July 18 |
| Aug. 27. | Works, Dalton, Neb. | June 13 |

## SEWERAGE AND SEWAGE DISPOSAL.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Clarion, Ia. Adv. July 18. | July 4 |
| July 21. | Wilmington, Del. | July 11 |
| July 21. | Summit, N. J. Adv. July 11. | July 11 |
| July 21. | Webster City, Ia. | July 18 |
| July 21. | Berwyn, Ill. | July 18 |
| July 21. | Salt Lake City, Utah | July 18 |
| July 21. | Niagara Falls, N. Y. | July 18 |
| July 21. | Maplewood, N. J. | July 18 |
| July 22. | Long Beach, Cal. | July 4 |
| July 22. | Dover, O. Adv. July 11. | July 11 |
| July 23. | Le Mars, Ia. | June 20 |
| July 23. | Amherst, O. | July 18 |
| July 24. | Bedford Hills, N. Y. Adv. July 4, 11. | July 4 |
| July 24. | Akron, O. | July 11 |
| July 24. | Carrollton, Ill. | Jnly 18 |
| July 24. | Portage, Wis. | July 18 |
| July 24. | St. Louis, Mo. | July 18 |
| July 27. | Houston Heights, Tex. Adv. June 27 to July 18. | June 27 |
| July 28. | Sect. 14, Newark, N. J. Adv. July 4 to 18. | July 4 |
| July 28. | Sect. 27, Newark, N. J. Adv. July 4 to 18. | July 4 |
| July 28. | Carthage, O. | July 18 |
| July 28. | Belleville, N. J. | July 18 |
| July 30. | Blythesville, Ark. | July 18 |
| July 31. | York, Pa. Adv. July 11, 18. | July 11 |
| Aug. 1. | Baton Rouge, La. | June 27 |
| Aug. 1. | Miamisburg, O. | July 18 |
| Aug. 3. | Hannibal, Mo. Adv. July 18. | July 18 |
| Aug. 4. | Belonzi, Miss. Adv. July 18. | July 18 |
| Aug. 4. | Toronto, Ont. | July 11 |
| Aug. 6. | Charleston, Mo. Adv. July 18. | July 18 |

## BRIDGES.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Albany, N. Y. Adv. June 27 to July 18. | June 27 |
| July 21. | Nevada, Mo. | July 4 |
| July 22. | Daniellsville, Ga. | June 6 |
| July 22. | Jackson, Wyo. Adv. June 20 to July 4. | June 20 |
| July 22. | Reading, Pa. | July 11 |
| July 22. | Cleveland, O. | July 4 |
| July 23. | Portland, Ore. Adv. July 11, 18. | July 11 |
| July 23. | Columbus, O. | July 18 |
| July 24. | McMinnville, Ore. Adv. July 11, 18. | July 11 |
| July 24. | Cranford, N. J. | July 18 |
| July 24. | Mason City, Ia. | July 18 |
| July 26. | Paeonian Springs, Va. | July 18 |
| July 27. | Kansas City, Kan. Adv. July 4 to 18. | July 4 |
| July 27. | Marysville, O. | July 4 |
| July 27. | Bowling Green, O. | July 18 |
| July 29. | Sacramento, Cal. | July 18 |
| July 30. | Boise, Idaho Adv. July 4 to 18. | July 4 |
| July 31. | New Gretna, N. J. | July 18 |
| July 31. | Marinette, Wis. | July 18 |
| July 31. | Easton, Pa. | July 18 |
| Aug. 1. | Woodsdale, O. | July 18 |
| Aug. 3. | Whitesburg, Ky. | June 27 |
| Aug. 3. | Santa Barbara, Cal. | July 18 |
| Aug. 4. | Boonville, Ind. | July 18 |
| Aug. 6. | Charlotte, N. Y. Adv. June 13, 20. | June 13 |
| Aug. 7. | Bucyrus, O. | July 18 |
| Aug. 15. | Toronto, Ont. | July 18 |
| Aug. 24. | Bowman, Ga. | July 18 |

## PAVING AND ROADS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 20. | Mt. Kisco, N. Y. Adv. July 11. | July 11 |
| July 20. | Greenwich, Conn. Adv. July 11, 18. | July 11 |
| July 20. | Peoria, Ill. Adv. July 11. | July 11 |
| July 21. | Philadelphia, Pa. | July 11 |
| July 21. | Seattle, Wash. | July 11 |
| July 21. | Decatur, Ala. | June 27 |
| July 21. | Pennsylvania | July 4 |
| July 21. | Berwyn, Ill. | July 18 |
| July 21. | Billings, Mont. | July 18 |
| July 21. | Boston, Mass. | July 18 |
| July 21. | Kansas City, Mo. | July 18 |
| July 21. | Herrin, Ill. | July 18 |
| July 22. | Gary, Ind. | June 27 |
| July 22. | Pittsburgh, Pa. | July 4 |
| July 22. | Perrysburg, O. | July 4 |
| July 22. | Pottsville, Pa. Adv. July 4, 11. | July 4 |
| July 22. | Dover, O. | July 11 |
| July 22. | Illinois | July 11 |
| July 22. | Trenton, N. J. | July 11 |
| July 22. | Brooklyn, N. Y. | July 18 |
| July 22. | Long Island City, L. I., N. Y. | July 18 |
| July 22. | Tuckahoe, N. Y. | July 18 |
| July 22. | Illinois | July 18 |
| July 23. | Columbus, O. | July 4 |
| July 23. | Chariton, Ia. | July 18 |
| July 23. | Lebanon, Pa. Adv. July 18. | July 18 |
| July 24. | Edon, O. | July 4 |
| July 24. | Portage, Wis. | July 11 |
| July 24. | Greensburg, Pa. | July 18 |
| July 25. | Old Fort, N. C. | July 18 |
| July 25. | Muncie, Ind. | July 18 |
| July 27. | Athens, Ala. | July 11 |
| July 27. | Albany, N. Y. Adv. July 11 to 18. | July 11 |
| July 27. | Harlan, Ia. | July 18 |
| July 27. | Auburn, Neb. | July 18 |
| July 27. | Colville, Wash. | July 18 |
| July 28. | Illinois | July 18 |
| July 28. | Rockville, Md. | July 18 |
| July 28. | Philadelphia, Pa. | July 18 |
| July 28. | New Cumberland, W. Va. | July 18 |
| July 29. | Indiana | June 20 |
| July 29. | La Rue, O. | July 4 |
| July 29. | Cleveland, O. | July 11 |
| July 29. | Washington, Pa. | July 11 |
| July 31. | Cincinnati, O. | July 11 |
| July 31. | Pocatello, Idaho | July 18 |
| Aug. 1. | Ellsworth, O. | July 18 |
| Aug. 1. | Cleveland, O. | July 18 |
| Aug. 3. | Indiana | July 18 |
| Aug. 4. | Indiana | July 18 |
| Aug. 4. | Youngstown, O. | July 18 |
| Aug. 4. | Toledo, O. | July 11 |
| Aug. 5. | Norwalk, Conn. Adv. July 18. | July 18 |
| Aug. 7. | Indiana | July 18 |
| Aug. 8. | Halls, Tenn. | July 18 |
| Aug. 10. | California | July 18 |

## HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Dredging, Boston, Mass. | July 18 |
| July 22. | Wharf, San Diego, Cal. | June 20 |
| July 22. | Pipe, Malta, Mont. Adv. June 27 to July 11. | June 27 |
| July 22. | Ditch, Huntington, Ind. | July 18 |
| July 23. | Breakwater, Chicago, Ill. Adv. July 11, 18. | July 11 |
| July 24. | Levee, Pekin, Ill. Adv. July 4, 11. | July 4 |
| July 24. | Dredging, Baltimore, Md. Adv. July 18. | July 18 |
| July 27. | Quay Wall, Victoria, B. C. | June 13 |
| July 27. | Lock Machinery, St. Paul, Minn. Adv. June 27 to July 18. | June 27 |
| July 27. | Ditch, Huntington, Ind. | July 18 |
| July 28. | State Canal Work, Albany, N. Y. | July 11 |
| July 28. | Levee Work, Baton Rouge, La. | July 18 |
| July 29. | Levee Construction, Jacksonville, Ill. Adv. July 11, 18. | July 11 |
| July 30. | Irrigation, Denver, Colo. Adv. July 4 to 18. | July 4 |
| July 30. | Drainage, Gridley, Ill. | July 18 |
| July 31. | Wharf, Windsor, N. S. | July 18 |
| July 31. | Wharf, Mochelle, N. S. | July 18 |
| Aug. 4. | Sluice and Regulator Gates, Great Falls, Mont. Adv. July 4 to 18. | July 4 |
| Aug. 4. | Ditch, Warren, O. | July 18 |
| Aug. 6. | Excavating Machinery, St. Paul, Minn. Adv. June 27 to July 11. | June 27 |
| Aug. 10. | Machinery for Locks, Etc., Seattle, Wash. Adv. July 11, 18. | July 11 |
| Aug. 10. | Pier Repairs, Newcastle, Ont. | July 18 |
| Aug. 10. | Gates for Dams, French River, Ont. | July 18 |
| Aug. 11. | Levee, St. Louis, Mo. | July 18 |
| Aug. 11. | State Canal Work, Albany, N. Y. Adv. July 18. | July 18 |
| Aug. 11. | Jetty, Steveston, B. C. | July 18 |
| Aug. 12. | Dredging, Galveston, Tex. Adv. July 18. | July 18 |
| Aug. 17. | Irrigation Work, Phoenix, Ariz. Adv. July 11, 18. | July 11 |
| Aug. 19. | Tunnel and Appurtenances, San Francisco, Cal. Adv. July 11. | July 11 |
| Aug. 26. | Breakwater, St. John, N. B. | July 18 |
| ——— | Drain, Ft. Dodge, Ia. Adv. June 27, July 4. | June 27 |

## POWER PLANTS, GAS AND ELECTRICITY.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 20. | Albany, N. Y. (2 Proposals), Adv. July 11 | July 11 |
| July 22. | Worthington, Minn. | July 18 |
| July 25. | Guantanamo, Cuba | July 11 |
| July 28. | Horton, Kan. Adv. July 18. | July 18 |
| ——— | Luna Park, Coney Island, N. Y. Adv. July 18. | July 18 |

## PUBLIC BUILDINGS AND SCHOOLS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Jennings, La. | Jun. 20 |
| July 21. | Ironton, O. | Jun. 27 |
| July 21. | Prince Rupert, B. C. | July 4 |
| July 21. | Leavenworth, Kan. | July 4 |
| July 21. | Detroit, Mich. | July 4 |
| July 21. | Gorham, Me. | July 11 |
| July 21. | Toronto, Ont. | July 11 |
| July 21. | Cleveland, O. | July 18 |
| July 21. | Detroit, Mich. | July 18 |
| July 21. | Boston, Mass. | July 18 |
| July 21. | Normandy, Mo. | July 18 |
| July 21. | Grand Island, Neb. | July 18 |
| July 21. | Jacksonville, Fla. | July 18 |
| July 22. | Patton, Cal. | Jun. 27 |
| July 22. | Bassano, Alta. | July 11 |
| July 22. | Brooklyn, N. Y. | July 18 |
| July 22. | Utica, N. Y. | July 18 |
| July 22. | Ridgeland, S. C. | July 18 |
| July 22. | Washington, D. C. | July 18 |
| July 23. | Toronto, Ont. | July 18 |
| July 23. | Wrentham, Mass. | July 18 |
| July 23. | Los Angeles, Cal. | July 18 |
| July 24. | St. Clairsville, O. | July |
| July 24. | Kamloops, B. C. | July |
| July 24. | Fresno, Cal. | July |
| July 24. | Mendham, N. J. | July |
| July 24. | Columbia, Mo. | July |
| July 25. | Urbana, Ill. | July |
| July 25. | Oil City, Pa. | July |
| July 25. | Niagara Falls, Ont. | July |
| July 25. | Franklin, Pa. | July |
| July 25. | Clarksburg, O. | July |
| July 25. | Detroit, Mich. | July |
| July 25. | Owatonna, Minn. | July |
| July 27. | Flandreau, S. D. | July |
| July 27. | St. Bernard, O. | July |
| July 27. | Albion, N. Y. | July |
| July 27. | Evanston, Wyo. | July |
| July 27. | Sandusky, O. | July |
| July 27. | New York, N. Y. | July |
| July 28. | Washington, D. C. | July |
| July 28. | West Hoboken, N. J. | July |
| July 28. | Merritt, B. C. | July |
| July 29. | Garden City, Kan. Adv. June 20, 27. | July |
| July 30. | Cookeville, Tenn. | Jun. |
| July 30. | Canal Dover, O. | July |
| July 30. | Carthage, O. | July |
| July 30. | Dayton, O. | July |
| July 30. | Pasadena, Cal. | July |
| July 31. | Louisville, Ky. Adv. July 4 to 18. | July |
| Aug. 1. | Chicago, Ill. | Jun. |
| Aug. 1. | Seattle, Wash. | July |
| Aug. 1. | Keyser, W. Va. | July |
| Aug. 3. | Three Rivers, Mich. | Jun. |
| Aug. 3. | Cleveland, O. | July |
| Aug. 3. | Bristol, Va. | July |
| Aug. 3. | Stevens Point, Wis. | July |
| Aug. 3. | Ladysmith, Wis. | July |
| Aug. 3. | Hanover, Ont. | July |
| Aug. 4. | Hespeler, Ont. | July |
| Aug. 4. | Stanley, N. D. | July |
| Aug. 4. | Cincinnati, O. | July |
| Aug. 4. | Youngstown, O. | July |
| Aug. 4. | Wythesville, Va. | July |
| Aug. 4. | Council Bluffs, Ia. | July |
| Aug. 4. | Trenton, N. J. Adv. July 18. | July |
| Aug. 5. | Vancouver, B. C. | July |
| Aug. 5. | Sacramento, Cal. | July |
| Aug. 6. | Gary, Ind. | Jun. |
| Aug. 6. | Courtenay, B. C. | July |
| Aug. 8. | Farmingdale, N. Y. Adv. July 18. | July |
| Aug. 12. | Georgetown, Ky. | July |
| Aug. 14. | Milwaukee, Wis. | July |
| Aug. 15. | Pearl City, T. H. | Jun |
| Aug. 20. | Paoli, Ind. | July |
| Aug. 22. | Medford, Ore. | July |
| Aug. 24. | Bedford, Pa. | July |

## PRIVATE BUILDINGS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | Windsor, Ont. | July |
| July 22. | Sarnia, Ont. | July |
| July 22. | Big Lake, Minn. | July |
| July 23. | Kankakee, Ill. | July |
| July 25. | Tacoma, Wash. | July |
| July 25. | Columbus, O. | July |
| July 28. | Tulsa, Okla. | July |
| July 29. | Alliance, Neb. | July |
| July 30. | Edmonton, Alta. | July |
| Aug. 6. | Monroe, La. | July |
| Aug. 20. | Seattle, Wash. Adv. July 18. | July |

## MISCELLANEOUS.

| Bids Close. | | See Eng. Record. |
|---|---|---|
| July 21. | U. S. Govt. Supplies, Washington, D. C. | Jun |
| July 21. | Wire and Tubes, Springfield, Mass. | July |
| July 21. | Museum Cases, Albany, N. Y. Adv. July 4 to 18. | July |
| July 21. | U. S. Govt. Supplies, Washington, D. C. | July |
| July 21. | Elevators, Boston, Mass. | July |
| July 22. | Park Improvement, Trenton, N. J. | July |
| July 22. | Cable, Washington, D. C. | July |
| July 23. | El. Ry. Wk., Brooklyn, N. Y. Adv. July 4, 11. | July |
| July 23. | Garbage Disposal, Clarksdale, Miss. | July |
| July 24. | Electric Ry., New York, N. Y. Adv. July 4, 11. | July |
| July 24. | Lumber, Wire, Etc., Panama | July |
| July 24. | Steam Lines, Brooklyn, N. Y. | July |
| July 27. | Riprap, Memphis, Tenn. | July |
| July 27. | Wire, Ottawa, Ont. | July |
| July 27. | Submarine Cables, Ottawa, Ont. | July |
| July 28. | U. S. Govt. Supplies, Washington, D. C. | July |
| July 29. | Coal Pocket, Ft. Williams, Me. Adv. July 11 to 18. | July |
| July 30. | Wire and Cable, New Orleans, La. | Jun |
| July 30. | Cables, Toronto, Ont. | July |
| July 30. | Steel Castings, Philippine | |
| July 30. | Cable, Toronto, Ont. Islands Adv. July 18. | July |
| Aug. 3. | Towboats, New Orleans, La. Adv. July 11 to 18. | July |
| Aug. 6. | Boilers, Washington, D. C. | July |
| Aug. 11. | U. S. Govt. Supplies, Washington, D. C. | July |
| Aug. 12. | Steel Barges, New Orleans, La. Adv. July 18. | July |
| Aug. 17. | Pump, Etc., from Dredge For Sale, Jacksonville, Fla. Adv. July 18. | July |
| Aug. 18. | Coal and Ash Handling Apparatus, Toronto, Ont. Adv. June 27 to July 18. | July |
| ——— | R.R. Work, Winnipeg, Man. Adv. July 11 to 18. | Jun |

★*Items marked thus give the names of parties awarded contracts.*